A Sustainable Future for Small States

Pacific 2050

Commonwealth Secretariat

The Commonwealth

A Sustainable Future for Small States

Pacific 2050

Edited by Resina Katafono

The Commonwealth

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Foreword

In 2016, the Commonwealth Secretariat published *Achieving a Resilient Future for Small States: Caribbean 2050*, which examined whether current Caribbean development strategies set the region on a path to achieve sustainable development by 2050. In that report, many tough questions were asked. Given the interest and debate the report stimulated, including the importance of long-term visioning and planning to build resilience, this second study for the Pacific was commissioned.

A Sustainable Future for Small States: Pacific 2050, examines similar questions to identify the best approach to building resilience in the small and vulnerable Commonwealth Pacific small states.

What will the outcomes be in 2050 for the Commonwealth Pacific small states? Can they achieve the Sustainable Development Goals (SDGs) by 2030 or 2050, if they miss the mark? Can they realise the Pacific Vision that was set by Pacific Islands Leaders for the region? If not, what must be done to change the trajectory to one where the SDGs are met and the Pacific Vision realised?

This study focusses on critical areas or 'game changers' that can catalyse change in the region.

- Governance, which is essential for achieving development outcomes. The study examines different perspectives on governance:
    1. Political governance — examining how leaders use political, legal and other institutions of state to advance sustainable development.
    2. Development effectiveness and coordination — looking at ways to improve ownership of development priorities, better focus on results, enhance inclusive partnerships and advance transparency and accountability.
    3. Ocean governance — demonstrating how governance issues impact the sustainable use of Pacific Ocean resources.
- Non-communicable diseases (NCDs), proposing ways to unlock the constraints to effective implementation of policy interventions for NCDs, currently the leading causes of death for the majority of the Commonwealth Pacific small states.
- Information and communications technology (ICT), suggesting ways to capitalise on ICT development, an enabler for accelerated economic development and social transformation, and which can catapult countries on a sustainable path to 2050.
- Climate change, which threatens the Pacific way of life, and an existential crisis for some. The study focuses on:

1. Migration and climate change — examining future migration trends and pressures, particularly climate-induced migration, which is already very real for many communities in the Pacific.
2. Energy — looking at ways to overcome significant barriers to improve energy access, energy efficiency, use more renewable energy and achieve energy security.

Similar to the Caribbean region, the Pacific has a long history of working together at the regional level to tackle development issues. These regional strategies supplement national development efforts and, for many of the focus areas, there are existing regional and national strategies in place to address the major issues and challenges.

Therefore, the studies in this report set out to uncover the gaps in the current strategies and offer solutions on how to address them effectively. The study also pulls together the common challenges that each of these sectors faces, providing lessons and overall recommendations that have applications across all other sectors.

We hope that this study will add value to the Pacific public policy discourse, challenge current thinking on old and new problems, and influence programme activities that can bring about tangible results to the people of the Pacific to fulfil the promise of the SDGs.

Deodat Maharaj
Deputy Secretary-General
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Acronyms and abbreviations

ABNJ	Areas Beyond National Jurisdiction
ABS	Access and Benefit-Sharing
ADB	Asian Development Bank
AFS	Anti-Fouling Systems
APA	American Psychological Association
APHA	American Public Health Association
APTC	Australia-Pacific Technical College
ASL	Above Sea Level
AusAID	Australian Agency for International Development
ATM	Automated Teller Machine
BBNJ	Marine Biological Diversity of Areas Beyond National Jurisdiction
BMI	Body Mass Index
BNPL	Basic Needs Poverty Line
CBD	Convention on Biological Diversity
CEN	Commonwealth Electoral Network
CESWG	CROP Energy Security Working Group
CLCS	Commission on the Limits of the Continental Shelf
CLGF	Commonwealth Local Government Forum
CEDAW	Convention on the Elimination of Discrimination Against Women
CPIA	Country Policy and Institutional Assessment
CRC	Cobalt Rich Crusts
CROP	Council of Regional Organisations of the Pacific
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CVD	Cardiovascular Disease
DOALOS	Division for Ocean Affairs and the Law of the Sea

DFAT	Department of Foreign Affairs and Trade (Australia)
DIRD	Department of Implementation and Rural Development (PNG)
DRR	Disaster Risk Reduction
DSIP	District Service Improvement Programme (PNG)
DSM	Deep Sea Minerals
DWFN	Distant Water Fishing Nations
EEZ	Exclusive Economic Zone
EGDI	E-Government Development Index
EIA	Environmental Impact Assessment
EU	European Union
FAD	Fish Aggregating Device
FAESP	Framework for Action on Energy Security in the Pacific
FAIDP	Framework for Action on ICT for Development in the Pacific
FAME	Fisheries, Aquaculture and Marine Economics (SPC)
FAO	Food and Agriculture Organisation
FATS	Framework for Action on Transport Services
FCTC	Framework Convention on Tobacco Control
FEA	Fiji Electricity Authority
FFA	Forum Fisheries Agency
FPO	Framework for a Pacific Oceanscape
FPTP	First Past The Post
FPR	Framework for Pacific Regionalism
FSM	Federated States of Micronesia
GCF	Green Climate Fund
GDP	Gross Domestic Product
GFATM	Global Fund to Fight Aids, Tuberculosis and Malaria
GHG	Greenhouse Gas
GIS	Geographical Information Systems
GNI	Gross National Income
GOVNET	Government Network (Fiji)
GPEDC	Global Partnership for Effective Development Cooperation

HDI	Human Development Index
HIES	Household Income and Expenditure Survey
HIMS	Health Information Management System
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
IAEG-SDGs	Inter-agency and Expert Group on SDG Indicators
IASS	Institute for Advanced Sustainable Studies
ICT	Information and Communications Technology
ICTWGS	ICT Working Group Secretariat (CROP)
IDEA	International Institute for Democracy and Electoral Assistance
IDF	International Diabetes Federation
IEA	International Energy Agency
IMO	International Maritime Organisation
IMTS	International Merchandise Trade Statistics
INDCs	intended nationally determined contributions
IPESP	Implementation Plan for Energy Security in the Pacific
IPPs	Independent Power Producers
IRENA	International Renewable Energy Agency
ISA	International Seabed Authority
ISSF	International Seafood Sustainability Foundation
ITU	International Telecommunication Union
IUCN	International Union for the Conservation of Nature
IUU	Illegal, Unreported and Unregulated
IWC	International Whaling Commission
K	Kina
KANI	Kiribati Australia Nursing Initiative
KOIL	Kiribati Oil Company
KSEC	Kiribati Solar Energy Company
LDCs	Least Developed Countries
LNA	Legislative Needs Assessment
LPG	Liquefied Petroleum Gas

LSMPA	Large Scale Marine Protected Area
MARPOL	International Convention for the Prevention of Pollution from Ships (MARPOL is an Abbreviation for 'Marine Pollution')
MCSWGM	Monitoring, Control and Surveillance Working Group Meetings
MDBS	Multi-Donor Budget Support
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MGR	Marine Genetic Resources
MIDA	Media Industry Decree
MoH	Ministry of Health (Tonga)
MoHMS	Ministry of Health and Medical Services (Fiji)
MP	Member of Parliament
MSG	Melanesian Spearhead Group
MSWG	Marine Sector Working Group (CROP)
MSY	Maximum Sustainable Yield
NAMA	Nationally Appropriate Mitigation Action
NBSAP	National Biodiversity Strategies and Action Plans
NCD	Non-communicable Disease
NDBP	National Development Bank of Palau
NDC	Nationally Determined Contribution
NERM	National Energy Road Map (Vanuatu)
NGO	Non-government Organisation
NSDSPG	National Sustainable Development Strategies Partnership Group
NSDS	National Strategies for the Development of Statistics
NTD	Neglected Tropical Disease
NUC	Nauru Utilities Commission
OCST	Oceania Centre for Sustainable Transport
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OPOC	Office of the Pacific Ocean Commissioner
OPRC	Intervention on Oil Pollution Preparedness, Response and Cooperation

OPRC-HNS	OPRC Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances
OTEC	Ocean Thermal Energy Conversion
PA	Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery
PACER	Pacific Agreement on Closer Economic Relations
PacTVET	Pacific Technical Vocational and Education Training
PACWIP	Pacific Women in Politics
PASAI	Pacific Association of Supreme Audit Institutions
PASO	Pacific Aviation Safety Office
PCREEE	Pacific Centre for Renewable Energy and Energy Efficiency
PEAG	Pacific Energy Advisory Group
PEFA	Public Expenditure and Financial Accountability
PELS	Pacific Efficient Lighting Strategy
PEN	Package of Essential Non-communicable Disease Interventions
PEOG	Pacific Energy Oversight Group
PFTAC	Pacific Financial Technical Assistance Centre
PIANGO	Pacific Islands Association of Non-government Organisations
PIANZEA	Pacific Islands, Australia and New Zealand Electoral Administrators
PICs	Pacific Island Countries
PICTs	Pacific Island Countries and Territories
PIDF	Pacific Islands Development Forum
PIDP	Pacific Islands Development Programme
PIFS	Pacific Islands Forum Secretariat
PIPSO	Pacific Islands Private Sector Organisation
PIROF-ISA	Pacific Islands Regional Ocean Policy Framework for Integrated Strategic Action
PIROP	Pacific Islands Regional Ocean Policy
PLMAM	Pacific Labour Mobility Annual Meeting
PNA	Parties to the Nauru Agreement
PNAO	Parties to the Nauru Agreement Office
PNG	Papua New Guinea
POHLN	Pacific Open Learning Health Net

PPA	Pacific Power Association
PPL	PNG Power Limited
PRDR	Pacific Regional Data Repository
PRIF	Pacific Region Infrastructure Facility
PSC	Public Service Commission
PUB	Public Utilities Board (Kiribati)
PV	Photovoltaic
REMF	Regional Environmental Management Framework for Deep Sea Minerals Exploration and Exploitation
RERF	Revenue Equalisation Reserve Fund
RONPHOS	Republic of Nauru Phosphate Corporation
RSE	Regional Seasonal Employer
RSF	Reporters Without Borders
SAMOA	Small Island Developing States Accelerated Modalities of Action
SDGs	Sustainable Development Goals
SDS	Strategy for Development of Samoa
SDWG	Sustainable Development Working Group (CROP)
SE4All	Sustainable Energy for All initiative
SEIAPI	Sustainable Energy Industry Association of the Pacific Islands
SEIDP	Sustainable Energy Industry Development Project
SIDS	Small Island Developing States
SIEA	Solomon Islands Electricity Authority
SMS	Short Message Service
SPC	Secretariat of the Pacific Community
SPREP	South Pacific Regional Environment Programme
SPRFMO	South Pacific Regional Fisheries Management Organisation
SPTO	South Pacific Tourism Organisation
SRH	Sexual and Reproductive Health
STEPS	Stepwise Approach To Surveillance
SWP	Seasonal Worker Program
TINZ	Transparency International New Zealand
TAE	Total Allowable Effort

TB	Tuberculosis
TEC	Tuvalu Electricity Corporation
TERM	Tonga Energy Road Map
TKA	Tokealau arrangement
TPL	Tonga Power Limited
TPPA	Trans Pacific Partnership Agreement
TVM	Te Vaka Moana
TVPA	Trafficking Victims Protection Act
TYPSS	Ten Year Pacific Statistics Strategy
UN	United Nations
UNDP	United Nations Development Program
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
UNFPA	United Nations Population Fund
UNFSA	United Nations Fish Stocks Agreement
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction
UNPAN	United Nations Public Administrations Network
UPNG	University of Papua New Guinea
USA	United States of America
USP	University of the South Pacific
VDS	Vessel Day Scheme
WB	World Bank
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean
WDF	World Diabetes Forum
WHO	World Health Organization
WSSD	World Summit on Sustainable Development
WTO	World Trade Organisation

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Chapter 1

Realising the Pacific Vision by 2050: Building on the Basics

Jimmie Rodgers and Resina Katafono

1.1 Introduction[1]

In 2004 (PIFS, 2005), Pacific leaders set a vision for the region that was reiterated ten years later through the Framework for Pacific Regionalism (PIFS, 2014):

> *Our Pacific Vision is for a region of peace, harmony, security, social inclusion, and prosperity, so that all Pacific people can lead free, healthy, and productive lives.*

At the end of 2015, the Commonwealth Pacific small states had made some progress towards this vision based on their progress on the Millennium Development Goals (MDGs) but many fell short. At the deadline for the MDGs in 2015, only Fiji and Tonga had achieved at least half of the MDGs; Nauru, Samoa, Tuvalu and Vanuatu achieved less than half of the goals; while Kiribati, Papua New Guinea (PNG) and Solomon Islands failed to achieve any of the MDGs (PIFS, 2015a). Sights are now set on achieving the Sustainable Development Goals (SDGs) by 2030, which is expressed in the outcome document of the United Nations Sustainable Development Summit, 'Transforming Our World: the 2030 Agenda for Sustainable Development' (2030 Agenda). If realised, this will also mean the realisation of the Pacific Vision.

By looking to 2050, this study provides the latitude to trace the different trajectories that are possible in seeking to achieve the SDGs and realise the Pacific Vision. Against the backdrop of the region's track record on implementing the MDGs, achieving all the SDGs will be an onerous task given the breadth and scope of the 17 goals and their 169 targets. This study does not cover all the areas of the SDGs. Instead, it focuses on the possible trajectory to 2050 of a cross-section of issues:

- Governance, focusing on political governance (Chapter 3), development effectiveness and co-ordination (Chapter 4) and ocean governance (Chapter 5).
- Non-communicable diseases (NCDs) (Chapter 6).
- Information and communications technology (Chapter 7).
- Climate change, focusing on migration and climate change (Chapter 8) and energy (Chapter 9).

The focus on these areas does not mean that other critical development issues (such as poverty, education, child and maternal health, gender equality – including violence against women, youth development, food security, economic growth, trade, etc.) not covered by this study are any less important. By looking at a few critical areas for the

Commonwealth Pacific small states, the aim of this study is to draw out common messages and offer practical recommendations that can also resonate with those areas not covered, as well as for all other small states.

This study is organised as follows: chapter 2 considers whether the Commonwealth Pacific small states can achieve the SDGs by 2030, finding that many will miss the mark even by 2050. Chapters 3 to 9 presents a full treatise of the issues and key messages in each of the respective thematic areas. This chapter provides a brief synopsis of the issues and challenges that are discussed in detail in chapters 3 to 9 (Part 1.2), outlines the common threads emanating from these chapters (Part 1.3), and presents some recommendations that can help steer the Commonwealth Pacific small states' trajectory to achieve the SDGs and realise the Pacific Vision (Part 1.4).

1.2 Issues and challenges

The focus areas of this study begins with a chapter on political governance – a major underlying determinant for the success or failure of any economy. Chapter 3 reviews the key challenges that the Commonwealth Pacific small states currently face in the structure and operation of their governance institutions, noting that while there is consensus on challenges, there is less agreement on the possible solutions. At the national level, key challenges include establishing stable and representative institutions, strengthening the distinct roles of the legislature, executive and judiciary, improving the quality of public policy and developing government capacity at provincial and local levels, in both urban and rural settings. At the regional level, there are issues of sovereignty, deepening integration beyond regional co-operation (including through subregionalism), constraints to the delivery of pooled services, and funding and accountability issues.

In looking to 2050, the chapter offers three scenarios for the Commonwealth Pacific small states individually and possibly for the region as a whole. The first scenario is one in which very few changes are made to the way countries are being governed, and future progress of these societies continues along the same pathways as at present. A second, bleaker, scenario foresees a deterioration in the quality of political governance, with consequent declines in human security, and a worsening of livelihoods. A third scenario, which is preferred, envisages transformations in political governance, which result in more rapid human development, as a consequence of greater focus on social justice and sustainability, and ensuring that government machineries serve all citizens equally, and to high standards. Faced with these scenarios, it is argued that attention should be focussed on developing capacity at subnational, national and regional levels, in addition to continuing efforts in building institutions, which was a primary focus of many countries post-independence. The chapter concludes with practical recommendations on how to strengthen local, national and regional governance.

Chapter 4 tackles governance from the perspective of development effectiveness and co-ordination, which is an important issue for the Commonwealth Pacific small states and the region, given the relatively high dependence of many countries on

official development assistance. The chapter outlines a range of issues that relate, directly and indirectly, to the level of development effectiveness achieved by the Commonwealth Pacific small states and identifies national and regional policy options for strengthening results in the future. It highlights the steps already taken in the Pacific, at both national and regional levels, to make progress but also underlines the importance of understanding the differences that exist in the economic and social determinants of the nine states. These determinants include their population size, availability of human and other resources, governance structures, political histories, cultural and social factors, and their overall level of development at this point in time.

Key issues and challenges identified at the national level include weak ownership of development priorities, insufficient focus on results, ineffective partnerships and poor accountability and transparency. There are also issues of ineffective implementation, and of monitoring and evaluation (M&E), as well as limited efforts to address gender inequality. Similar issues are encountered for programmes that are delivered from regional platforms, and the effectiveness of regional and subregional efforts, as well as regional organisations, is examined.

The Pacific region has made progress on these challenges, including through the Framework for Pacific Regionalism and the Forum Compact on Strengthening Development Co-ordination.[2] Nevertheless, there are remaining gaps that need to be considered in the face of the three potential scenarios (status quo, deterioration, transformation) as the countries progress toward 2050. These gaps include – leadership to ensure that countries are driving their national development agenda; improving the availability, quality, accessibility and timeliness of data; more inclusive policy analysis and formulation process; more effective co-ordination; greater focus on issues of gender; improving regional mechanisms to deliver results and ensuring the best technical advice. The chapter concludes with recommendations on addressing these gaps.

The discussions in Chapters 3 and 4 complement and reinforce each other, highlighting the broader governance issues that Commonwealth Pacific small states face. In Chapter 5, these issues of governance are brought to light at the sector level through the examination of ocean governance and management arrangements. As abundant as the uses and users of the Pacific Ocean are, so too are the global, regional and national mechanisms that govern them. The chapter discusses these governance arrangements before examining the key issues and challenges in the fisheries, transport, tourism and emerging sectors (deep sea mining and bioprospecting), highlighting also environmental pressures and threats, geopolitical interests and gender perspectives.

The Pacific has had promising responses to the challenges faced, with successful Pacific advocacy and leadership on oceans issues in the global arena, mushrooming of regional oceans policy commitments, capitalisation of the tuna resources through the Parties to the Nauru Agreement and advances in community-led natural resource management. Looking to 2050, the major challenges to overcome include responding to foreign pressures, lack of national investment in environmental management, inadequate fiscal regimes and revenue management options, population growth and

climate change. The chapter offers practical actions to address these challenges – shifting the ocean paradigm from 'explore and exploit' to 'sustain and be sustained by'; refining regional approaches to 'communities of interest' and reviewing the role of technical agencies; whole-island and whole-ocean approaches and improving national service delivery and natural resource governance arrangements.

Issues of governance, particularly in relation to development effectiveness and co-ordination, also feature strongly in Chapter 6, which outlines the Pacific region's battle against non-communicable diseases (NCDs), the leading cause of death in all the Commonwealth Pacific small states (except PNG). Despite major international, regional and national policy responses in place, there are remaining issues around trade and health sector policy coherence, effective multisectoral approaches, financing for NCDs, M&E and civil society engagement. The chapter also highlights the interlinkages between NCDs, poverty, gender, youth and climate change, as well as the effects that the improved urban design of towns and cities, along with information and communications technology (ICT), can have in combating NCDs.

In looking to 2050, two possible paths are offered. The first, and the one which is more likely to occur unless the current NCDs epidemic is curbed, is the deterioration in the health and economic livelihoods of the countries. The second, and the ideal one for Commonwealth Pacific small states, is that of transformation, which reflects the harnessing of sufficient political will to lead the fight against NCDs. The chapter underscores the importance of political leadership, the impact of rapid population growth and the rising costs of NCDs in influencing these paths. It is clear from the chapter that there are more than adequate policies and strategies in place to combat NCDs at the global, regional and national levels. The key challenge is to do with the effective implementation of these policy interventions. In light of the two possible paths and the gaps highlighted, the chapter concludes with recommendations that can help unlock the constraints to effective policy implementation at national, regional and international levels.

ICT pervades much of society today and will definitely influence the landscape of 2050. While many developed countries have capitalised on the advances in ICT, with applications for areas such as e-government, climate change, disaster risk reduction and management, education, health and business, small states have lagged behind. Chapter 7 looks at the key challenges that Commonwealth Pacific small states face in maximising ICT. The remote island geography and population dispersion are major barriers to improving connectivity and ICT infrastructure in the region. However, ICT penetration through mobile and broadband connectivity has increased significantly, although there are wide intra-regional differences, with lower internet usage in PNG and Solomon Islands, underpinned by high costs.

Most Commonwealth Pacific small states have strategies in place to develop and regulate the ICT sector but gaps remain as the development of ICT application and systems has been largely ad hoc and piecemeal. Much more concerted effort is needed to expand connectivity and ICT infrastructure, use a mix of innovative connectivity technologies to overcome geographical barriers, optimise ICT applications (consistent with one of the recommendations of Chapter 6 to embrace

ICTs in combating NCDs), as well as to ensure that there are more effective laws and regulations in place. In 2050, ICT is expected to be radically different from what it is now and while progress is slower than elsewhere, uptake of ICT in the region is expected to follow the global trend. Therefore, to prepare the region for a technology-driven knowledge-based society in 2050, the chapter recommends an integrated approach to ICT infrastructure and services development, development and/or strengthening of a regional e-government resource centre and the scaling up and replication of ICT applications.

However, the opportunities that 2050 can bring for the Commonwealth Pacific small states could be easily thwarted by the impact of climate change if it is not addressed now. An emerging issue in this regard is migration and climate change, which is the focus of Chapter 8. In this chapter, international migration, migration structures, interregional migration, and rural-urban migration patterns, and their impact on economies, populations and remittances are discussed. The particular circumstances of atoll states (Kiribati and Tuvalu) are also highlighted, given their significant development challenges and extreme vulnerability to climate change and severe climatic events.

Looking towards 2050, demand for migration is expected to become more important, making it necessary for Commonwealth Pacific small states to strengthen or develop strategies for skilled migration and seasonal worker schemes. On the other hand, the impact of climate change raises the challenges of climate-induced migration, with a need to address issues of displacement and resettlement, as well as gathering data for evidence-based policy in this emerging area. Thus, the journey towards 2050 is expected to be complicated and challenging, as well as dependent on the policies of the metropolitan states adjoining the Pacific region. The chapter concludes with practical recommendations at the regional and national level to address these challenges, noting that effective governance and an integrated approach will be crucial for success.

A discussion on climate change will not be complete without considering the energy sector, which is what Chapter 9 sets out to do. While the Commonwealth Pacific small states' contribution to greenhouse gas emissions is negligible, the energy sector plays a major role in the economic resilience of these countries, given their heavy dependence on imported petroleum products. Common challenges include difficulties in achieving energy security and effective co-ordination, population dispersion and geographical barriers, lack of energy data, weak institutional and technical capacity, non-market electricity tariffs, irregular electricity supply, lack of attention to energy efficiency and sustainable transport, financing constraints and a lack of gender perspectives. For each of these challenges, the chapter outlines the regional and national responses in place but highlights that gaps remain.

In looking to 2050, three possible scenarios are envisaged: (i) a 'business as usual' scenario that sees steady population growth and growing energy demand, yet little improvement to access, energy efficiency and renewable energy; (ii) a scenario where there is moderate population growth, with only some improvements to access, energy efficiency and renewable energy; and (iii) an optimistic scenario with lower population growth rates and escalated action on access, energy efficiency and

renewable energy. Based on current trends, Commonwealth Pacific small states are headed for the first scenario, with the level of financing a catalyst for moving towards the two improved scenarios. The chapter concludes with practical recommendations that can change the current trajectory, as well as address the gaps in the regional and national responses.

1.3 Common threads

As discussed in the previous section, chapters 3 to 9 highlights the gaps in policy responses that are currently in place to address the major issues and challenges in that sector. Key sector-specific recommendations are then offered to address these gaps so that Commonwealth Pacific small states can change their trajectory into 2050 to achieve greater development dividends. Consistent with the poor outcomes expected on the SDGs (see Chapter 2), many of the baseline 2050 scenarios offered in chapters 3 to 9 are scenarios that lead to less than optimal development outcomes.

Several common themes and challenges also flow through chapters 3 to 9. These common threads have applications to other sectors not covered in this study, as well as for other Pacific island countries, so addressing them could effectively catapult the region closer to realising the SDGs and the Pacific Vision.

1.3.1 Political will

High-level political will is required to achieve the type of transformation that meets the ambition of the SDGs and the Pacific Vision by 2050. This theme reverberates across chapters 3 to 9. Clearly, the achievement of development goals, whether set at the national, regional or global level, is more likely to occur in those countries where there is strong political will to succeed and where the associated administrative, financing and performance management frameworks are synchronised and effectively implemented. Some Commonwealth Pacific small states are already demonstrating such level of political will.

Samoa's efforts to translate the SDGs into national outcomes provides one example of the high-level political leadership and national ownership required to achieve the SDGs. Samoa took early steps to integrate the SDGs in the context of its national development strategy (Strategy for the Development of Samoa 2016/17–2019/20).[3] Samoa was also one of the first countries in the world to lodge its national voluntary review on the SDGs as part of the follow-up and review mechanism of the 2030 Agenda (see Box 1.1). Other Commonwealth Pacific small states that have also integrated the SDGs into their national development plans include Kiribati, Solomon Islands, Tonga, Tuvalu and Vanuatu. At the sector level, Fiji's initiative to have both the head of state and the head of government lead the fight against NCDs is another demonstration of high-level political will, leadership and commitment.

1.3.2 Data challenges

Many Commonwealth Pacific small states lack a functional and effective M&E system due to data gaps, which limits their capacity to review and develop evidence-based

Box 1.1 Samoa's First National Voluntary Review Report on the SDGs

Lodged at the High-Level Political Forum on Sustainable Development 2016, Samoa's National Voluntary Review Report on the SDGs noted Samoa's strong support for the objectives of Agenda 2030 and their direct links to the aspirations of the SAMOA Pathway (outcome of the Third International Conference on Small Island Developing States). In pursuit of the SDGs, the report highlighted the importance of:

a. Using existing in-country processes, systems and institutions to ensure the SDGs are appropriately contextualised.

b. Open and consultative processes in the development of the national strategy and the accompanying sector-level plans for implementation.

c. Mainstreaming the SDGs, SAMOA Pathway, Paris Accord and Financing for Development objectives as an ongoing process.

d. Establishing a co-ordinating body for monitoring and reporting – in Samoa's case, a National SDGs Taskforce.

e. Accurate national statistics for monitoring the SDGs. This is central to political and policy considerations in deciding the vision and priorities of the national strategic plan.

f. Close collaboration between the National Statistics Office and key stakeholders for the collation and validation of relevant country and regional indicators.

g. Increased investments in human capacity and institutional capabilities and, as a consequence, the support of development partners.

h. Taking account of the specific challenges faced by small island states and in doing so adequately reflect economic inequalities, social crises and ecological risks.

Source: Speech of the Samoa Minister of Finance at the High-Level Political Forum on Sustainable Development 2016

policies. Addressing the gaps in national data and weak national information systems is therefore critical and a prerequisite for sound policy formulation, establishing partnerships and strengthening capacity. While there are ongoing efforts to strengthen data collections in the region, principally through regional programmes and sector-based work led by the Secretariat of the Pacific Community and a range of development partners, concerns remain about the quality and availability of data in a timely manner that can be used by policy-makers and planners to better inform development initiatives. All Commonwealth Pacific small states continue to face challenges on the availability, accessibility and timeliness of reliable, good quality data to support effective policy analysis and formulation across all sectors and in

tracking the SDGs. This is also evident from Chapter 2, where data gaps prevented a complete analysis of the countries' prospects against each of the SDGs.

Raw data (official and administrative) are available in all countries but in many cases are not analysed or presented in formats that support objective and evidence-based decision-making. Key challenges include: weak legislation or weak implementation of legislative provisions governing the collection, analysis and reporting of statistics in some countries; lack of time series data that could support trend analysis, forecasting and modelling of future challenges and potential solutions; lack of disaggregated data by age, sex and (geographical) location to inform more effective targeting of policy focus and interventions, and the undervaluing of the importance of data often leading to static or diminishing levels of resources accorded to national statistical offices and virtually no attention accorded to the importance of mining, analysis and reporting of administrative data available across all sectors at the country level. In countries where the importance of data is valued, high-level political commitment is evident and national processes are aligned to generate, analyse and report timely data for decision-making and/or tracking of national development goals and the SDGs.

Looking to 2050, the Commonwealth Pacific small states should aspire to, embrace and be part of the regional and global knowledge society, where the tools to support effective evidence-based decision-making (good quality, reliable, timely and easily accessible data) at country level are universally available and linking quality data, evidence and decision-making becomes the norm.

1.3.3 Governance

Building effective state institutions and promoting national unity were among Pacific Leaders' top priorities in the post-independence decades of the second half of the twentieth century. The twenty-first century, however, is presenting the challenges of a more globalised world: climate change is foremost among these, as well as the influences of global finance, global commerce and telecommunications, new geo-strategic alignments, and the rising expectations of ever-more educated, youthful and informed populations.

Other issues causing concern across the Commonwealth Pacific small states include corruption in public life, the conduct of parliaments, under-representation of women in public life and a lack of gender perspectives, resource exploitation that trades long-term environmental degradation for only short-term economic gain, and ongoing public-sector challenges in delivering basic services. These challenges manifest in one way or the other throughout chapters 3 to 9.

Therefore, looking to 2050, it is important for Commonwealth Pacific small states to strengthen public institutions at the national and subnational levels, as well as develop the capacity to engage effectively at the regional and global levels. At the subnational level, there is a need to strengthen the links between national, provincial and village or community levels of governance to ensure that the development priorities at the national level adequately reflect the aspirations of these other levels

of government. There is also a need to recognise the ongoing role of customary leadership and values, while respecting human rights. At the regional level, continued efforts are required to seek a model of regional governance suitable to deliver on development outcomes. At the global level, there will be ever-greater engagement with global policy networks and various international/global institutions. At all these levels, political actors must respond to the evolving circumstances of their constituents. There should be deliberative and inclusive decision-making processes in place, which include both government and non-government actors, in particular private sector, faith-based organisations, non-government organisations (NGOs) and other civil society organisations. In addition, governments should encourage the full and equal participation of women in public life, and the full participation of young people in nation-building and decision-making processes. Good political governance, a dynamic private sector, regional co-operation, integration into global markets and well-managed infrastructure are essential for growth in Commonwealth Pacific small states to 2050.

1.3.4 Multisectoral policy coherence

Successful implementation of national development strategies and sector strategies requires the participation of many sectors in government and outside of government, including private sector, faith-based organisations and civil society organisations. Lack of policy coherence among implementing partners has been a key impediment to successful implementation of many national and sector policies, as outlined in many of the thematic chapters.

Looking to 2050, strengthened policy coherence between sectors, greater clarity on the roles and responsibilities of interdependent sectors and actors (including civil society, private sector, faith-based organisations and NGOs) and greater clarity of governance and accountability mechanisms are critical to successful implementation of multisectoral polices and strategies.

1.3.5 Effective partnerships and stakeholder engagement

Openness, trust, shared accountability, and mutual respect and learning, while recognising the different and complementary roles of all actors, are at the core of effective partnerships in support of development goals. Many of the thematic chapters highlight the importance of effective partnerships and stakeholder engagement in delivering outcomes.

However, an ongoing challenge in most of the Commonwealth Pacific small states is ensuring an active and effective participatory process in developing and implementing national and sector plans and strategies. Ensuring genuine engagement with partners outside the government, including the private sector, civil society and faith-based organisations is crucial to cultivating joint ownership and long-term sustainability. In a number of countries, there continues to be a mistrust of civil society and NGOs by governments, while in some countries there is a selective approach as to which of these organisations are consulted by government agencies when designing national and sector plans and budgets.

Looking to 2050, in line with the Small Island Developing States Accelerated Modalities of Action (SAMOA) Pathway (outcome of the Third International Conference on Small Island Developing States) and the Framework for Pacific Regionalism, Commonwealth Pacific small states should aim for genuine and durable partnerships based on national ownership, mutual trust, transparency and accountability. Countries also need to implement strengthened consultative processes aimed at improving the relationships between the government and its constituents, in particular the private sector and civil society organisations, including faith-based organisations, NGOs and community-based organisations, to cultivate and build trust and confidence.

1.3.6 Finance

None of the Commonwealth Pacific small states have levels of domestic resources to adequately and sustainably finance the achievement of the SDGs or realisation of the Pacific Vision. This is a clear message in chapters 3 to 9. The situation is exacerbated in some countries given the projected rapid population growth. Hence, the majority of the Commonwealth Pacific small states are anticipated to remain reliant on development assistance in 2050, especially countries like Tuvalu, Kiribati and Nauru which have limited prospects for domestic resource mobilisation. PNG is the only country endowed with substantial levels of natural resources and could potentially be economically self-reliant by 2050 but must overcome significant governance challenges before achieving this.

Looking to 2050, countries will need to secure adequate levels of financing from domestic resource mobilisation, where relevant, and external sources (such as climate finance, development finance, official development assistance, remittances, etc.). This needs to be supported by greater investments in ensuring robust financial management systems inclusive of effective budget formulation and implementation, and adequate human resource capacity. Most countries have adopted a single integrated budget approach and a number have moved to adopt a programme budgeting approach. However, more needs to be done to ensure that the budgeting process is fully reflective of the costs of development programmes, with the inclusion of all sources of finances in budgets. Budgets for some key stakeholders contributing to national development outcomes, such as faith-based organisations that run the bulk of education and health institutions in some countries, are also not yet fully reflected in the budget documents. Other options to address specific financing needs could include specific global, regional and/or subregional financing mechanisms. For example, Chapter 6 calls for a global fund to combat NCDs, while Chapter 7 calls for an ICT innovation fund.

1.3.7 Capacity development

Inadequate human, financial and institutional capacity often combine to undermine effective development progress in many of the Commonwealth Pacific small states. Many such capacity constraints are highlighted in chapters 3 to 9.

Looking to 2050, the focus on capacity development needs to go beyond just skills development of individuals. Comprehensive institutional capacity building of the central agencies of Government, focusing on both their internal operations

and their interrelationships with one another is crucial. Just providing additional funds has rarely been enough to strengthen and sustain delivery. Strengthening core government functions is a prerequisite to strengthening state operations and to restoring and expanding private markets. Some countries would need to undertake human resource mapping to enhance planning, including a review of their national education systems and curricula, to ensure these are geared towards future employment requirements and deliver on national capacity needs, including through technical and vocational education. Strengthening of human, financial and institutional capacities in Commonwealth Pacific small states will enhance their chances of achieving the SDGs and the Pacific Vision at least by 2050.

1.3.8 Population dynamics

Population dynamics heavily influence the 2050 trajectories of many Commonwealth Pacific small states as highlighted in many of the thematic chapters. Population growth places pressures on finite resources, as well as on public services. Despite this, many national and sector policies do not adequately account for population dynamics, including the constant rural-urban drift that leads to rapid unplanned urbanisation. On current population growth projections, Kiribati, Solomon Islands, Papua New Guinea and Vanuatu are expected to face considerable population pressures with obvious social and economic implications en-route to 2050.

Looking to 2050, many Commonwealth Pacific small states need to focus on achieving a demographic transition to lower fertility rates (such as those demonstrated by Fiji, Tuvalu and Tonga). Population dynamics need to take centre stage in formulating national and sector strategies, particularly in the countries with projected rapid population growth. Effective urban planning and management policies are also needed to ensure sustainable cities, in combination with more equitable and effective rural development.

1.4 Recommendations: building on the basics

Clearly, the issues highlighted in the previous section can resonate with all other sectors not covered in this study, as well as with other small states. These issues are by no means new or groundbreaking but rather reflect the essential building blocks of development. For the Commonwealth Pacific small states, these basic foundations are already in place but at different stages of maturity, with none completely on solid footing. Therefore, to change the current trajectory and achieve the SDGs and realise the Pacific Vision, Commonwealth Pacific small states must build on these basic foundations. The following recommendations provide practical ways to strengthen these foundations.

1.4.1 Strengthen political will

Political will and leadership is the foundation upon which each country's long-term vision and sustainable development goals can be achieved. Political will drives vision, transforms leadership, and catalyses policy coherence and effective implementation across all sectors to achieve development milestones and targets, and measures development progress.

1.4.2 Address the data challenges

Strengthen the regional approach and financing for statistics development. The Pacific region has in place a Ten Year Pacific Statistics Strategy (TYPSS) 2011–2020, which is currently in its second stage of implementation. As TYPSS predates the SDGs, there is a need to update the strategy to fully take into account the demands of the SDGs, with strengthened engagement with national planners and policy-makers, in setting the revised priorities of TYPSS or to develop a new strategy. Implementation modalities of the strategy need to ensure the data demands at the national, regional and global levels are met. Building the capacity of countries to meet the SDGs data requirements and capitalising on ICT data platforms should also be paramount considerations. At national levels, countries should also consider the SDGs demands in their national statistics development strategies, with close engagement between policy-makers and statisticians. As many countries lack the financial resources to invest in strengthening statistics capacity, mobilising increased development assistance for statistics development is needed.

Strengthen engagement between policy-makers and statisticians. Often, the statistics produced do not fully meet the needs of policy-makers. Therefore, it is important to strengthen the engagement between policy-makers (national planners etc.) and statisticians to ensure that the statistics most needed for policy purposes are prioritised (policy-led data collection). This is critical given the significant breadth and depth of the SDGs, the existing data gaps and pressure to produce data for new indicators. At the national level, this can be done through the establishment of a committee to oversee statistics development, which includes relevant policy-makers, planners, statisticians and other key stakeholders. At the regional level, this can be done by strengthening the links between the Pacific SDGs Taskforce,[4] National Sustainable Development Strategy Partnership Group[5] and the Pacific Statistics Steering Committee,[6] as well as the Heads of Planning and Statistics meeting.

Legal reforms to strengthen statistics collection. In some countries, while national statistical offices are mandated by law to collect and publish statistics, the law usually does not explicitly require other sectors inside or outside of government that are generating raw data to be mutually responsible for the production of statistics. Strengthening these laws, to include accountability requirements and indicators for all sectors involved in generating and collecting raw statistics could be a useful starting point in some countries to achieve a 'whole-of-society' approach to improving statistics. Such a legal requirement would encourage respective sectors to prioritise collection and analysis of statistics and put in place mechanisms and resources to analyse any administrative data collected, as well as consider datasharing modalities. Some Commonwealth Pacific small states have made progress in this area; for example, the 2015 Samoa Statistics Act established a 'Statistics Advisory Board' to address the role of other sectors that produce statistics.

1.4.3 Strengthen governance

Strengthen local governances across the Pacific. This requires reform to laws concerning intergovernmental relations; developing sustainable legal, financial and

administrative frameworks for both urban and rural local authorities; and utilising best-practice customary values in sustainable development particularly in natural resources management, supported by appropriate human and institutional capacity-building programmes.

Strengthen oversight of government performance, including policies to ensure that gender equality and development programmes are inclusive of all members of the community. This will include a stronger, more effective public accounts committee; regular reports from the Auditor-General that are submitted and considered by parliament; and more effective anti-corruption policies. It should also include scaling up of programmes that encourage women's participation in public life.

Implement a strengthened consultation process and co-ordination with governments. Engagement with civil society, the private sector and development partners is essential to ensure that all stakeholders, government, civil society, private sector and development partners are fully involved in the planning, budgeting, implementation and M&E processes of each country and are given the necessary support to ensure accountability and transparency in the decision-making of governments.

Strengthen parliamentary processes and democratic institutions. This may involve strengthening the function of legislatures through revision of Standing Orders to specify the duration of sessions, and standards for debate, question time; publishing an annual parliamentary calendar (work programme) to facilitate planning by members of parliament, committees, administrative support staff, government departments and agencies, and the public; ensure the autonomy of the Public Service Commissions, which will insulate the public sector from nepotism and politicisation; strengthen relations between the central government agencies to improve co-ordination, efficiency, and policy coherence and implement a whole-of-government approach to e-government to increase transparency, efficiency, policy coherence, and service delivery.

Explore fit-for-purpose mechanisms for regional co-operation and service delivery (as highlighted in the Morauta Report Pacific Plan Review, 2013). The process of delivering 'deeper integration' by the Pacific island countries requires greater clarification of consultation and decision-making processes, research, commitment of resources, milestones and time frames. The mandates, roles and responsibilities of the Council of Regional Organisations of the Pacific (CROP) agencies; the results from CROP working groups; and the lines of accountability of existing Pacific regional organisations need be more easily and systematically made available to the public. 'Subregionalism' is an important aspect of Pacific regionalism. Sub-regional groupings – including those that already exist – can play constructive roles in identifying the most appropriate areas for co-operation leading to closer integration and, ultimately, development dividends, such as the success of the Parties to the Nauru Agreement. Governments should consider establishing or strengthening dedicated mechanisms to address Pacific regional integration and co-operation.

Strengthen national mechanisms that link international and regional agreements to national implementation and streamline institutional arrangements for

monitoring and reporting. One example being the efforts taken by Samoa, as well as other Commonwealth Pacific small states, to integrate the SDGs effectively into their national development plans.

1.4.4 Enhance multisectoral policy coherence

Ensure coherence of all policies, legislative reform and programmes at national and sector levels, and associated implementation projects/activities. Policy coherence is essential to successful implementation of multisectoral strategies or policies. A national energy policy, for instance, will involve legislative reforms, will rely on water, roads, transport and communication networks, will have an impact on financial and revenue systems, will impact trading of energy-related commodities, food security and food storage systems, and ultimately aim to provide social and economic development opportunities for people. Successful implementation of such policy will require policy coherence that generates effective participation of all actors in various parts of the energy sector services.

Costing and prioritisation of national development priorities/goals through an integrated multi-year planning, budgeting, implementation and M&E framework. Commonwealth Pacific small states should aim to achieve budget development processes that include all sources of finance, such as currently undertaken in Fiji.

Adopt a whole-of-government/whole-of-society approach to development. This will require strengthening interdepartmental or inter-ministerial co-operation and co-ordination. It will also require inclusive consultations and participation with all sectors outside government, including the private sector, faith-based organisations, NGOs and other civil society organisations, on strategy/policy development implementation and M&E processes. The new governance mechanism adopted by Tonga to oversee the implementation of its new national NCDs strategy provides an example of a whole-of-government/society approach (see chapter 6). This governance mechanism includes many partners in the government sector, the private sector and civil society organisations, who are collectively guided by one plan, one financing mechanism, one co-ordination mechanism and one M&E framework.

1.4.5 Establish effective partnerships and stakeholder engagement

Strengthen mechanisms for integrated stakeholder relationships to foster trust and meaningful participation on public policy processes (planning, implementation and M&E). More frequent, well-organised and structured consultative sessions need to occur between governments and other key stakeholders (NGOs, faith-based organisations, civil society, private sector, academia, etc.) aimed at cultivating trust and genuine partnership to jointly address national development challenges. This should also help to overcome the perceived mistrust between governments and these stakeholders.

Strengthen use and transparency of country-led mechanisms in government/development partner/donor consultative processes to ensure partnerships on Pacific terms. This epitomises one of the four key Busan principles highlighting

'ownership of development priorities by developing countries' and emphasising that 'partnerships for development can only succeed if they are led by developing countries, implementing approaches that are tailored to country-specific situations and needs'.

Continue and expand the Forum Compact on Strengthening Development Coordination. This is a good practice example of south-south co-operation that includes a peer review process, demonstrating the value of Pacific island countries working together and learning from each other. Its expansion can include a continued rollout of public financial management reforms and ongoing confidence building among development partners to embrace national systems and provide increasingly untied budget support. The 'refreshed' Compact can also assist countries with costing and prioritisation of national development priorities through an integrated multi-year planning, budget, implementation and M&E framework, as well as help countries adopt whole-of-government/society approaches to development. It can also serve as a south-south co-operation platform to build capacity across the small states' regions (Caribbean and Africa).

1.4.6 Secure sustainable finance

Enhance domestic resource mobilisation, where feasible, including through tax reforms. Except for Nauru, Kiribati and Tuvalu, which are likely to remain dependent on donors even in 2050, the other Commonwealth Pacific small states can consider growing their domestic resource base through appropriate tax reform.

Establish/strengthen global and regional financing mechanisms to address the most serious development challenges that undermine the future survival of the world's populations. The global community needs to urgently consider establishing a global financing mechanism to tackle the global NCDs epidemic, the single largest killer of the world's population. A global NCDs fund could also provide financing for the Pacific NCDs financing mechanism and national action against NCDs. The global community also needs to ensure that international commitments and obligations for the Green Climate Funds are met.

Consider national trust funds for large windfalls. For example, countries with potential large windfalls from new sources of revenue, such as those with deep sea mining potential, can benefit from the establishment of national trust funds. However, these need to be carefully designed and managed.

Harness the potential of diaspora finance. With increased international migration, the Commonwealth Pacific small states have a growing diaspora in developed countries. This has led to large remittance inflows for many of the countries (Tonga, Samoa, Tuvalu, Kiribati, Fiji). Therefore, there is a good opportunity to harness finance from the growing diaspora to meet development needs.

Explore innovative and blended financing mechanisms, including public-private partnerships. There are opportunities for public-private partnerships, particularly in ICT development, which should be explored. Levies can also be used to finance natural resource management and high-cost infrastructure developments.

1.4.7 Enhance capacity development

Implement a set of comprehensive human development and institutional strengthening programmes. These can include:

- Human resource mapping to enhance planning, including a review of the national education systems and curricula to ensure they are geared towards future employment requirements and can deliver on national capacity needs, including through technical and vocational education.
- South-south co-operation through the Forum Compact on Strengthening Development Coordination between the Commonwealth Pacific small states and similar small states in the Caribbean and African regions; and
- Institutional and intra-institutional strengthening through development assistance, where development partners are required to have effective capacity-building components as part of project delivery. This will ensure the sustainability of the project.

1.4.8 Account for population dynamics

Ensure that population dynamics are captured in regional and national development strategies, including at the sector level. Although population dynamics impact many development variables, such as migration, family planning, urbanisation, natural resource management, and labour mobility, population issues are generally not well integrated into national and regional strategies or sector plans. A better understanding by policy-makers of the impact of population growth on development and incorporation of these dynamics into national or sector plans is key to achieving more effective and sustainable development outcomes.

Establish comprehensive national and regional resettlement strategies, especially for climate-induced migration. Resettlement programmes, including those that result from climate change, are currently addressed on an ad-hoc and piecemeal basis. Many of the Commonwealth Pacific small states are currently feeling the brunt of climate change impacts, such as more severe cyclones. Some are expected to be completely inundated by 2050 by sea level rise, such as Kiribati and Tuvalu. Given this outlook, there is a need for comprehensive national and regional resettlement strategies, which will require a high level of regional and international co-operation.

Notes

1 This chapter benefited from inputs from Graham Hassall, Garry Wiseman, Hugh Govan, John Connell and Anthony Polack. Valuable comments were received from Denny Lewis-Bynoe and Amelia Kinahoi Siamomua.

2 The Forum Compact on Strengthening Development Co-ordination comprises various initiatives including: i) annual MDGs tracking; ii) peer reviews of national institutions, policies and systems; iii) development partner reporting on aid effectiveness commitments; iv) Public Financial Management reforms; v) more effective climate change financing; vi) private sector engagement/dialogue and vii) investment in infrastructure development.

3 Samoa identified a total of 146 indicators that are aligned between the SDGs indicators and indicators used to monitor the national development strategy. With support from the United Nations Development Programme (UNDP), Samoa is embarking on a SDGs data gaps assessment; mapping of the data ecosystem; and development of an integrated M&E framework, as well as a roadmap for implementation.
4 The Pacific SDGs Taskforce was established in 2016 to outline the Pacific SDGs Roadmap to guide the region's efforts to implement and monitor the SDGs. It consists of representatives of Pacific Islands Forum member countries, Council of Regional Organisations of the Pacific agencies, multilateral agencies, bilateral partners, non-state actors and regional research/academic institutions.
5 The Pacific National Sustainable Development Strategies Partnerships Group (NSDSPG) was established to promote joint planning, support and implementation among relevant regional and international development organisations and partners to improve the formulation and implementation of national plans.
6 The Pacific Statistics Steering Committee was set up to monitor the implementation of the TYPSS.

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Chapter 2

The Commonwealth Pacific Small States: The Future in the Mirror of the Past

Resina Katafono

2.1 Introduction[1]

As a result of their unique vulnerabilities, the Commonwealth Pacific small states (Fiji, Kiribati, Nauru, Papua New Guinea (PNG), Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) faced wide-ranging economic, social, environmental and political challenges that impeded their achievement of the Millennium Development Goals (MDGs). There were eight MDGs, of which developing countries were required to achieve the first seven goals, while developed countries were expected to support these efforts through a global partnership for development (MDG 8).

Of the seven MDGs, Tonga achieved five of the goals, Fiji achieved four, Samoa achieved three, Nauru and Tuvalu achieved two, while Vanuatu and PNG achieved one (PIFS, 2015). However, Kiribati, PNG and Solomon Islands failed to achieve any of the MDGs (PIFS, 2015). Many Commonwealth Pacific small states were successful in reducing child mortality and in achieving universal primary education (PIFS, 2015). However, very few countries made gains in reducing poverty and achieving gender equality and the empowerment of women, while there were mixed outcomes on improving maternal health, combating HIV/AIDS, malaria and tuberculosis, and ensuring environmental sustainability (PIFS, 2015).

As countries set their sights on achieving the Sustainable Development Goals (SDGs), it is important to understand the scale of the challenge ahead of them in the years to the deadline in 2030. Can these nine states achieve the SDGs by 2030? Focusing on the long-term horizon to 2050 has the benefit of also examining whether countries are likely to achieve the SDGs even if they miss the mark by 2030. Will the mirror of the past provide the image of the future? This chapter sets out to answer these questions, providing the overall context and background for the remaining chapters. The following section briefly discusses the key characteristics of the nine countries before looking at their prospects on the SDGs.

2.2 Heterogeneous islands facing common challenges

The Commonwealth Pacific small states are a subset of the 14 independent Pacific island countries (PICs) in the region.[2] The Pacific region also consists of island territories of France, New Zealand, the United Kingdom and the United States – eight in total.[3] Therefore, the nine Commonwealth Pacific small states are essentially a subset of the 22 Pacific island countries and territories (PICTs) that make up the region.

Nevertheless, the Commonwealth Pacific small states make up 90 per cent of the population of the Pacific region and 95 per cent of the region's total land area (SPC, 2016), on account of PNG (Table 2.1). PNG is the most populous country in the region, estimated at around 8 million people, representing 72 per cent of the region's population (SPC, 2016). PNG is also the largest of the island countries and territories in terms of land mass, at 462,840 km^2, which accounts for 84 per cent of the total land mass in the region (SPC, 2016). In contrast, Tuvalu is the least populous, with a population estimated at around 10,100 people (land size of 26 km^2), while Nauru is the smallest in land size at 21 km^2 (estimated population of 10,800) (SPC, 2016). Except for Nauru, Kiribati, Tuvalu and Fiji, the majority of inhabitants of the Commonwealth Pacific small states live in rural and outer island areas.

The Commonwealth Pacific small states also span the three distinct subregions of the Pacific – Melanesia (Fiji, PNG, Solomon Islands and Vanuatu), Micronesia (Kiribati, Nauru) and Polynesia (Samoa, Tonga, Tuvalu). The population densities of the Commonwealth Pacific small states in Micronesia and Polynesia are relatively higher than in Melanesia (Table 2.1). However, the Melanesian countries are more endowed with natural resources compared to the other subgroups, with the atoll island nations of Micronesia relatively resource-poor, particularly in terms of land resources. In terms of oceans resources, the Commonwealth Pacific small states account for only 40 per cent of the exclusive economic zones (EEZs) in the region (see Chapter 5).

Despite their diversity, Commonwealth Pacific small states face common unique vulnerabilities as small island developing states (SIDS), such as relatively small populations, wide geographic dispersion and isolation from markets, a narrow

Table 2.1 Commonwealth Pacific small states

	Population (estimate, mid-2016)	Land area (km^2)	Population density (people/km^2)	Urban population at last census (%)
MELANESIA				
Fiji	880,400	18,333	50	51
PNG	8,151,300	462,840	18	13
Solomon Is	651,700	28,230	23	20
Vanuatu	289,700	12,281	24	24
MICRONESIA				
Kiribati	112,900	811	141	57
Nauru	10,800	21	514	100
POLYNESIA				
Samoa	194,000	2,934	66	20
Tonga	100,600	749	134	23
Tuvalu	10,100	26	388	57
Commonwealth Pacific Small States	10,401,500	526,225	21	18
PICs	10,595,700	528,047	20	17
PICTs	11,443,000	551,542	20	16

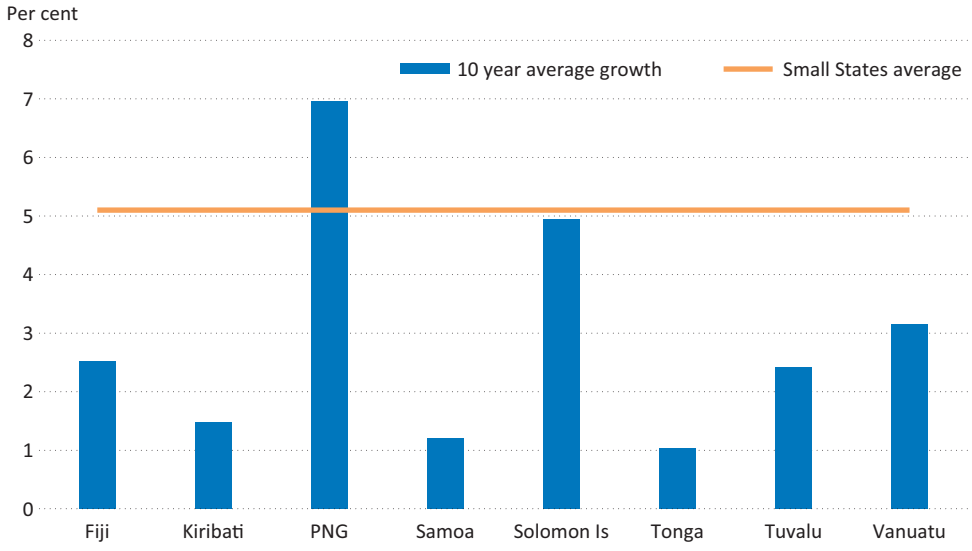
Source: Secretariat of the Pacific Community, 2016

production and resource base, and vulnerability to natural disasters and climate change. The extreme geographic dispersion of the nine small states also results in high transportation and infrastructure costs, which affect connectivity (see Chapter 7).

Partly as a result of these factors, the economic growth performance of the Commonwealth Pacific small states has been subdued, compared to other small states (Kronenberg and Khor, 2016). In the last ten years, gross domestic product (GDP) growth averaged 3.0 per cent across the nine states, ranging from 1.0 per cent in Tonga to 7.0 per cent in PNG (Figure 2.1). This compares with an average GDP growth rate of 5.1 per cent for all small states. The resource-rich Melanesian countries generally outperformed the other Commonwealth Pacific small states. Growth has also been generally constrained by weak macroeconomic policy frameworks, capacity constraints, including poor implementation, limited financial depth, land tenure issues, high levels of public debt (Samoa, Tonga, Tuvalu), high dependence on aid (Tuvalu, Kiribati, Solomon Islands) and remittances (Tonga, Samoa), as well as political instability (Fiji, PNG, Solomon Islands and Tonga) (Kronenberg and Khor, 2016). Commonwealth Pacific small states are also quite heavily dependent on imported petroleum products, resulting in an increased susceptibility to global oil price shocks (see Chapter 9).

In terms of environmental risks, natural disasters affect Commonwealth Pacific small states disproportionately compared to other small states, in terms of occurrence and probability, as well as damage and losses (Cabezon *et al.*, 2016). The recent devastating impact of Cyclone Winston in Fiji (2016) and Cyclone Pam in Vanuatu (2015) is an acute reminder of how natural disasters can derail the development prospects of small states. The impact of climate change also poses a threat to Commonwealth Pacific small states, particularly the low-lying atoll states of Kiribati and Tuvalu, from

Figure 2.1 Commonwealth Pacific small states, GDP growth (%)



Source: World Bank Development Indicators

sea level rise (see Chapter 8). Climate change also threatens agricultural production and income, particularly in the Melanesian island states, through increased water salinity (Cabezon *et al*., 2016).

In addition, Commonwealth Pacific small states face various social challenges. Health and education outcomes are generally poorer in Melanesia (except Fiji) and Micronesia (PIFS, 2015a). The Pacific region is currently facing a non-communicable diseases (NCDs) crises, which is the leading cause of death in all Commonwealth Pacific small states except PNG (see Chapter 6). Polynesian and Micronesian states rank high on global obesity, tobacco use and physical inactivity rates (see Chapter 6). There are also issues of gender inequality, with violence against women a major concern for all states (PIFS, 2015a).

In terms of political governance, Commonwealth Pacific small states also face a range of national challenges, particularly acute in Melanesia, such as race-based political representation (Fiji), lack of accountability of constituency development funds (PNG, Solomon Islands), and the threat of no-confidence motions (Vanuatu) (see Chapter 3). At the regional level, issues of sovereignty and accountability, as well as the lack of clarity over the roles and responsibilities of the different regional agencies, hinder effective regional governance mechanisms (see Chapter 3). Broader governance issues, particularly development co-ordination, are also important given the high aid dependency of many of the Commonwealth Pacific small states – all except PNG and Fiji are among the top 25 countries with high official development assistance (ODA) per gross national income; Tuvalu recorded the highest at 69 per cent.[4] In terms of aid per capita, Tuvalu also received the highest amount, followed by Nauru in second place, Tonga in 6th place, Kiribati in 7th place, Samoa in 9th place, Vanuatu in 11th place and Solomon Islands in 14th place in the world (see Chapter 4).

Briguglio's vulnerability and resilience framework (Briguglio *et al.*, 2006; Briguglio, 2014) best summarises the challenges that Commonwealth Pacific small states face. In this framework, vulnerability refers to the inherent characteristics that make countries prone to external shocks, such as high trade openness, high export concentration and dependence on strategic imports, while resilience refers to an economy's ability to withstand external shocks, driven by macroeconomic stability, market efficiency, social development and good political governance. According to this framework, Fiji, Samoa, Tonga and Vanuatu were found to be highly economically vulnerable but with moderately well-governed economies (Briguglio, 2014). Kiribati, PNG and Solomon Islands were also highly economically vulnerable but had weaker resilience scores (Briguglio, 2014). These are important contexts to bear in mind as the next section looks at the prospects of the Commonwealth Pacific small states achieving the SDGs by 2050.

2.3 Can the Commonwealth Pacific small states achieve the SDGs?

As the deadline for the MDGs approached, member states of the United Nations adopted the SDGs through the outcome document of the United Nations Sustainable

Development Summit, 'Transforming Our World: the 2030 Agenda for Sustainable Development' on 25 September 2015. The SDGs are a set of 17 goals (Box 2.1) and 169 targets.[5] Subsequent to the adoption of the SDGs, on 6 March 2015, the United Nations Statistical Commission created an Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs), composed of member states and regional and international agencies as observers to develop an indicator framework to monitor the SDGs.

Box 2.1 Sustainable Development Goals

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalise the global partnership for sustainable development

Source: United Nations, 2015

The IAEG-SDGs (2016a) proposed a classification of SDG indicators into three tiers based on their level of methodological development and data availability:

- Tier 1: Indicator conceptually clear, established methodology, standards available and data regularly produced by countries.
- Tier 2: Indicator conceptually clear, established methodology, standards available but data are not regularly produced by countries.
- Tier 3: Indicator for which there are no established methodology and standards or methodology are being developed/tested.

As at December 2016, there were a total of 225 SDG indicators, of which 83 were Tier 1 indicators, 59 were Tier 2 and 83 were Tier 3.

The following assessment is based on the trends of Tier 1 indicators for the SDG targets relevant to the Commonwealth Pacific small states (see Appendix 1 for details). Goal 17 and targets for each of the goals related to the means of implementation are excluded from the assessment as these depend on collective national, regional and international action.

The trends are computed through a simple linear regression forecast function of the indicator against time that requires at least two data points. There are certainly drawbacks of using such a simplistic methodology but the intention is not to have an accurate point forecast into 2030 or 2050, which would be difficult in any case for even more complex modelling or forecasting techniques. This simple framework is intended to provide the general direction that the SDG indicators are trending to allow a broad assessment of whether the SDGs can be achieved. As development efforts take time to manifest in these type of indicators, the past performance of these countries on the MDGs will also help ground the assessment against the related SDGs.

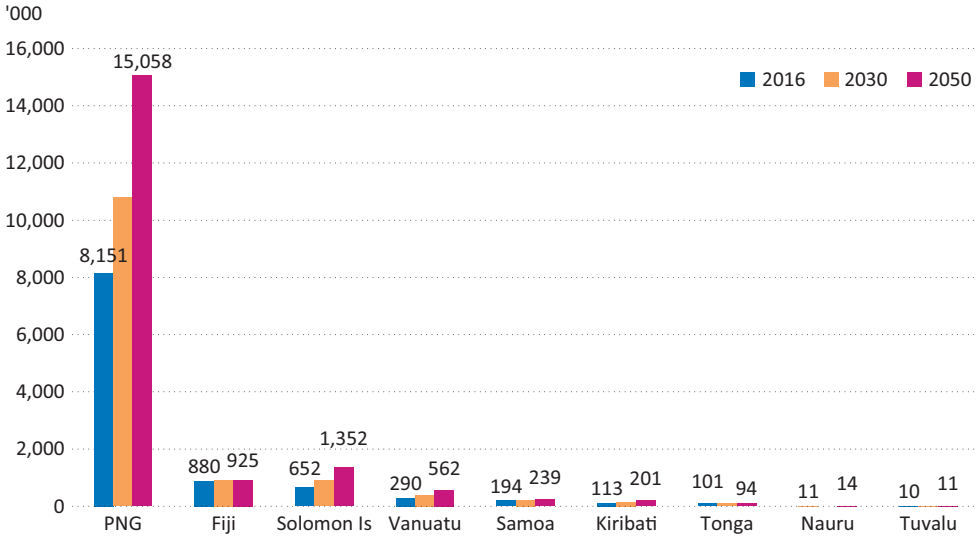
As a general guideline, a country is expected to achieve the goal if all the relevant targets are expected to be met. A mixed outcome means that some targets are met while some are not met, while a country is not expected to achieve the goal when none of the targets are met.

Underpinning these assessments are the population projections for each of the Commonwealth Pacific small states. By 2050, PNG's population is expected to double to around 15 million people, while Solomon Islands' population is expected to surpass Fiji's, reaching 1.3 million people (Figure 2.2). Vanuatu and Kiribati are also expected to record strong growth in population rates. The impact of these population projections are discussed for the relevant goals in the ensuing sections.

2.3.1 Goal 1 – no poverty

There are seven targets under this goal, two of which relate to the means of implementation. The IAEG-SDGs proposed 12 indicators to monitor this goal, of which only two were Tier 1 indicators to monitor Target 1.1 and 1.2, respectively (see Appendix 2.1). For the Commonwealth Pacific small states, there is a general absence

Figure 2.2 Population projections

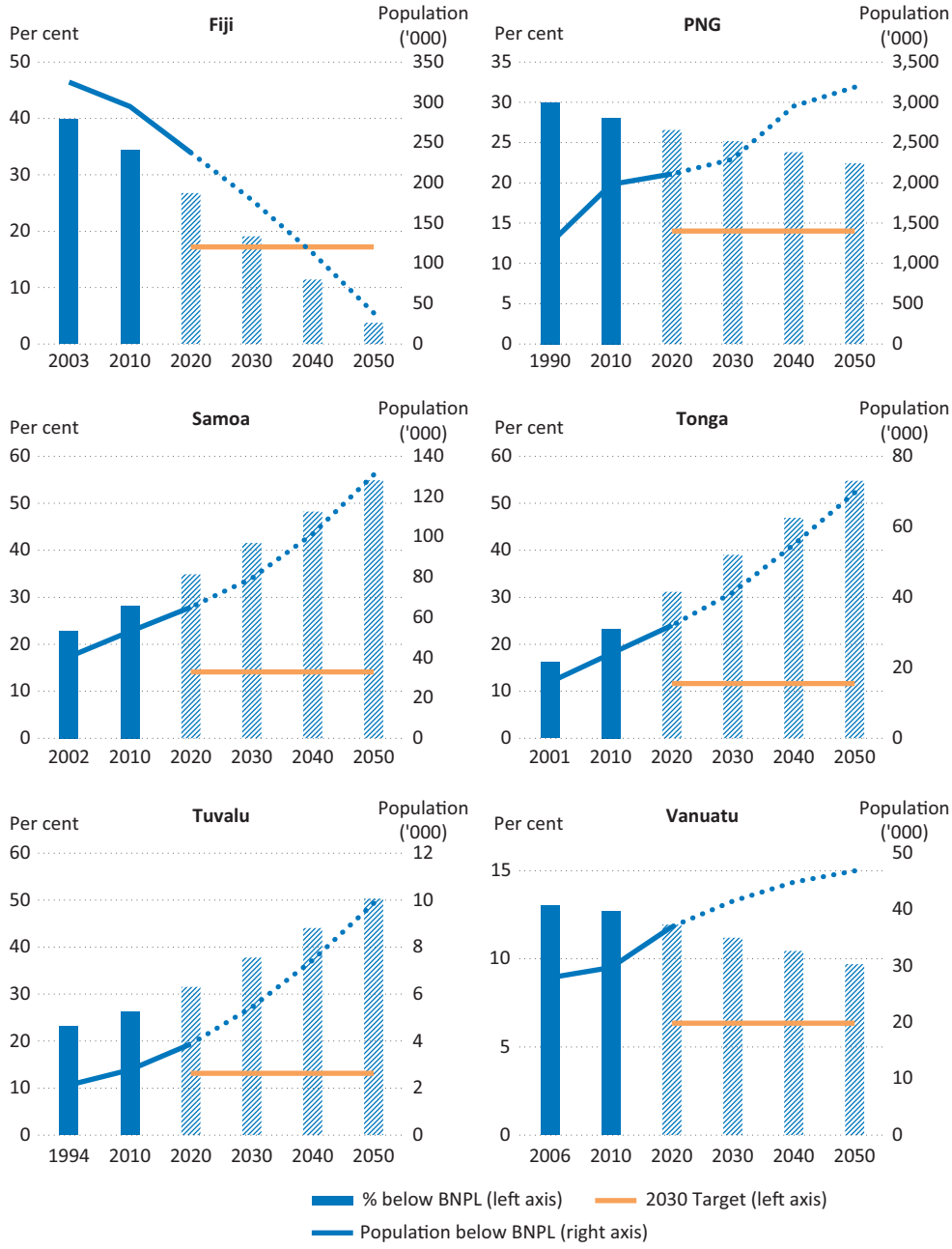


of extreme poverty so Target 1.2 (by 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions) is more relevant, with the proportion of population living below the national poverty line used to assess the achievement of Goal 1.

Based on the historical trend, none of the Commonwealth Pacific small states for which data are available are expected to achieve Goal 1 by 2030 (Figure 2.3). None of the nine countries had also achieved MDG 1 on poverty, with Fiji, Samoa, Solomon Islands, Tonga and Vanuatu recording mixed outcomes, while Kiribati, Nauru, PNG and Tuvalu failed to achieve the goal at the end of 2015 (PIFS, 2015a). However, Fiji is expected to come close to meeting this goal by 2030, achieving it by 2033 instead. Fiji's poverty rates have declined in the last decade, on account of a concerted effort by the government on poverty alleviation schemes (PIFS, 2015a). If this trend continues, Fiji is likely to achieve this goal by 2050. Although the proportion of the population living below the national poverty line is declining for PNG and Vanuatu, the decline is outpaced by the projected population growth rates,[6] resulting in more people in poverty/hardship towards 2030 and 2050. Samoa, Tonga and Tuvalu are currently exhibiting an increasing trend in the poverty indicator, and if left unrestrained this will result in these countries not meeting Goal 1. There were insufficient data for Kiribati, Nauru and Solomon Islands to make an assessment.

In terms of social protection systems, traditional safety nets through extended kinship or clan-based social networks common in most Commonwealth Pacific small states, while they remain important, are slowly eroding (AusAID, 2012a; AusAID, 2012b). There are also not many formal social protection schemes, with contribution-based pensions the most common form of social protection, while non-contributory schemes or social assistance/income support schemes play a relatively minor role

Figure 2.3 Expected Achievement of Goal 1



Note: BNPL = basic needs poverty line.
Source: SPC National Minimum Development Indicators, accessed 23 June 2016 (historical data and population projects); authors' calculations (poverty indicator projections based on trend)

(UNESCAP, 2014). Fiji's Family Assistance Program is the largest non-contributory cash transfer programme (AusAID, 2010).

Fiji should scale up current efforts to achieve Goal 1 by 2030, while serious reform is needed for PNG, Vanuatu, Samoa, Tonga and Tuvalu to achieve Goal 1. Even though there are no data for Nauru, Kiribati and Solomon Islands, given their poor outcome on MDG1, they are also likely to require serious reform, beginning with addressing the poverty data gaps.

2.3.2 Goal 2 – zero hunger

There are eight targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 14 indicators to monitor this goal, of which six were Tier 1 indicators (see Appendix 2.1). The relevant targets for the Commonwealth Pacific small states are Target 2.1 and 2.2, with respective Tier 1 indicators related to undernourishment and stunting. However, data for both these indicators were only available for Fiji, PNG and Vanuatu. Kiribati, Samoa and Solomon Islands had data on undernourishment but insufficient data on stunting. There were no reported data for Nauru, Tonga and Tuvalu.

For many of the Commonwealth Pacific small states, the prevalence of undernourishment is not a major concern but the increase in stunting poses a serious concern. Although Fiji is expected to maintain a very low prevalence of undernourishment (Table 2.2) and low levels of stunting in 2050, the prevalence of stunting is on an increasing trend (Figure 2.4). This indicates that Fiji's performance on Goal 2 is likely to be mixed by 2030. However, if not addressed, stunting levels are expected to increase from a low to moderate level by 2050, and Fiji will not meet Goal 2 by then. Similarly, while Vanuatu is expected to meet Target 2.1 on undernourishment (Table 2.2), stunting is expected to rise from a medium to high level by 2030 and on to a very high level by 2050 (Figure 2.4) if steps are not taken now to address the increasing trend. For PNG, even though there are no reported data on undernourishment, PNG's historically very high levels of stunting and ongoing increasing trend (Figure 2.4) indicate that PNG is unlikely to meet Goal 2.

While Kiribati and Samoa are expected to have very low levels of undernourishment and meet Target 2.1 (Table 2.2), insufficient data on stunting makes it difficult to assess performance on the overall goal. Similarly, while Solomon Islands is expected

Table 2.2 Prevalence of undernourishment (%)

	1992	2000	2010	2016	2030	2050
Fiji	6.6	<5.0	<5.0	<5.0	<5.0	<5.0
Kiribati	7.5	5.1	<5.0	<5.0	<5.0	<5.0
Samoa	10.7	8.4	<5.0	<5.0	<5.0	<5.0
Solomon Is	24.8	14.6	11.0	11.3	7.4	<5.0
Vanuatu	11.2	8.3	5.9	6.4	<5.0	<5.0

Source: Food and Agricultural Organisation (FAO) database, accessed 9 February 2016 (1992–2016); authors' calculations based on trend (2030–2050)

to miss Target 2.1 by 2030 but achieve it by 2050 (Table 2.2), there are insufficient data on stunting to assess the performance on the overall goal.

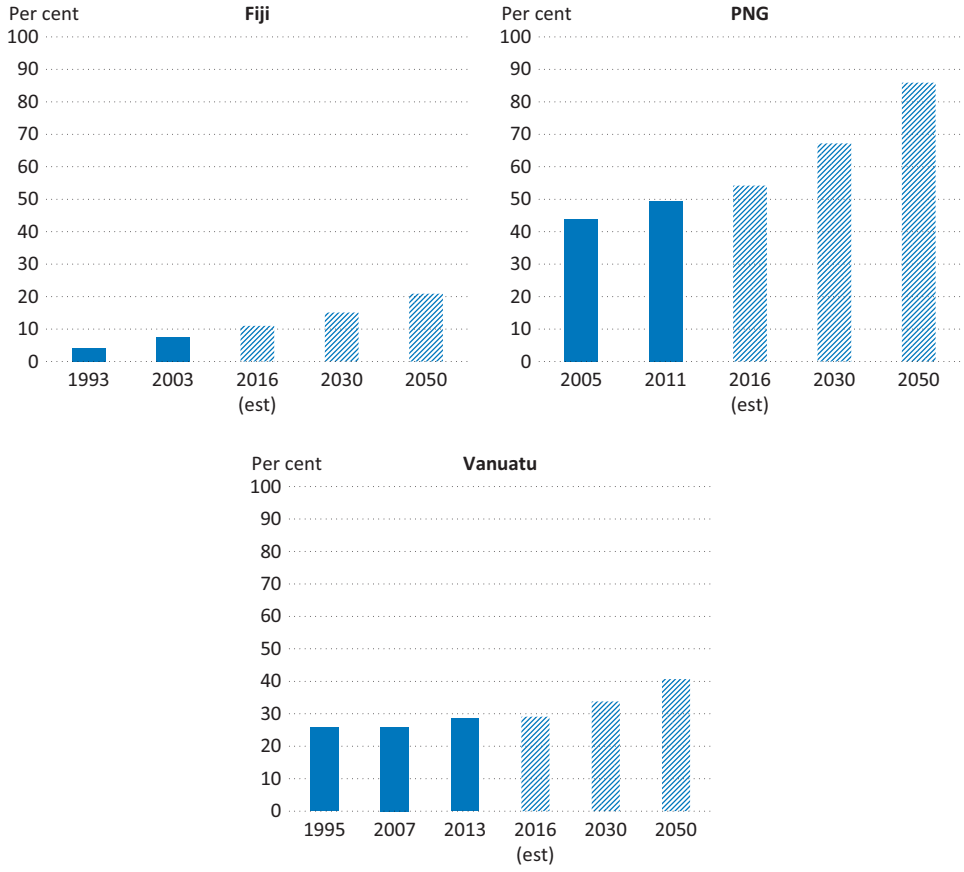
Given this outlook, Fiji should scale up current efforts to achieve Goal 2, while reform is needed in this area for PNG and Vanuatu to meet this goal.

2.3.3 Goal 3 – good health and well-being

There are 13 targets under this goal, four of which relate to the means of implementation. The IAEG-SDGs proposed 26 indicators to monitor this goal, of which 13 were Tier 1 indicators (see Appendix 2.1). Consequently, assessment is made on the following targets, for which data are available (see Appendix 2.2):

- **Target 3.1 Maternal Mortality (skilled birth attendants):** Consistent with the results on MDG 5 (improve maternal health) (PIFS, 2015a), Fiji, Tonga and

Figure 2.4 Prevalence of stunting



Note: According to the WHO, prevalence of stunting <20 indicates low stunting, 20–29 indicates medium stunting, 30–39 high stunting and 40+ very high stunting.
Source: UNICEF, WHO, World Bank Joint Child Malnutrition Estimates dataset, 2015 (1995–2013); authors' calculations based on trend (2016–2050)

Tuvalu are expected to achieve this target, with skilled birth attendants already in excess of 97 per cent and on an increasing trend to 2030. Kiribati recorded mixed results on MDG 5 but recorded a decline in traditional birth attendants by the end of 2015 (PIFS, 2015a). Building on those results, Kiribati is expected to achieve this target by 2030. Samoa and Vanuatu reported mixed results on MDG 5 and, based on current trends, are expected to make slow progress in this area, resulting in mixed results by 2030 but expected to achieve the target by 2050. PNG failed to meet MDG 5 by 2015, recording one of the highest maternal mortality ratios for the Asia Pacific region. With high levels of fertility, high rates of teenage pregnancy, low antenatal coverage and a weak health system, unless there is drastic reform, PNG is not expected to meet this target, even by 2050. There was insufficient information to make an assessment for Nauru and Solomon Islands.

- **Target 3.2 Child Mortality (≤25 under-five mortality; ≤12 neonatal mortality):** Fiji, Samoa, Solomon Islands and Tuvalu are expected to meet the targets on under-five and neonatal mortality. Kiribati is expected to meet the target for under-five mortality but not for neonatal mortality by 2030; however, Kiribati should achieve the neonatal target by 2050. This means that Kiribati will record mixed outcomes for 2030 on this target but will achieve it by 2050. A similar outcome is expected for Vanuatu as it is expected to meet the target for neonatal mortality but not for under-five mortality by 2030; Vanuatu is expected to achieve the under-five mortality target by 2050. On the other hand, while Nauru is expected to achieve the under-five mortality target, it is not expected to achieve the neonatal target, even by 2050. Similarly, Tonga is expected to achieve the neonatal target but not the under-five mortality target, even by 2050. As such, both countries are expected to record mixed outcomes on this target for 2030 and 2050. PNG is not expected to meet either target by 2030 or 2050.

- **Target 3.3 Communicable Diseases (tuberculosis (TB), malaria, neglected tropical diseases (NTDs)):** None of the Commonwealth Pacific small states are expected to achieve this ambitious target even into 2050. While Fiji, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu are expected to reduce the incidence of TB, it is uncertain whether they will be able to eliminate TB. These countries are also still working towards eliminating NTDs, such as lymphatic filariasis (Fiji, Samoa, Solomon Islands, Tonga, Tuvalu), blinding trachoma (Fiji, Solomon Islands, Vanuatu), yaws (Solomon Islands, Vanuatu) and soil-transmitted helminthiases (Tuvalu) (WHO, 2013). As a result, these countries are expected to achieve mixed results on this target. Kiribati, Nauru and PNG are not expected to achieve this target, with an increasing trend in TB incidence, and work also remaining to eliminate NTDs – Kiribati (filariasis, trachoma, leprosy), Nauru (trachoma), PNG (filariasis, trachoma, leprosy, yaws, soil-transmitted helminthiases and foodborne trematodiases) (WHO, 2013).

- **Target 3.5 Substance Abuse (alcohol use):** Based on historical trends, alcohol per capita consumption for Fiji, Kiribati, Nauru, Tuvalu and Vanuatu is expected to decline towards 2030 and 2050, which should contribute to achieving this target.

However, alcohol per capita consumption is likely to remain the same for PNG and Solomon Islands, resulting in a mixed outcome for the target. On the other hand, Samoa and Tonga's alcohol per capita consumption is expected to increase significantly, making it difficult for these countries to achieve this target.

- **Target 3.6 Road Traffic Accidents:** There is insufficient information to make an assessment on this target as data are only available for 2012 for Fiji, PNG and Solomon Islands.
- **Target 3.7 Sexual and Reproductive Health-care Services:** There is insufficient information to make an assessment on this target as adequate time series data are not available for the Tier 1 indicator for all countries, with no reported data for Fiji (see Appendix 2.1).
- **Target 3.9 Chemicals and Pollution:** There is insufficient information to make an assessment on this target as data are only available for 2012 for Fiji, PNG and Solomon Islands.

In summary, current trends suggest that the majority of the Commonwealth Pacific small states are expected to record mixed outcomes on Goal 3, with PNG the only country clearly not expected to meet this goal based on its expected performance on each of the targets (Table 2.3). It should also be noted that while there are no Tier 1 indicators at present to make an assessment on Target 3.4 on reducing NCDs, the outlook on NCDs is expected to be grim if efforts are not scaled up (see Chapter 6).

For targets where countries are expected to record mixed outcomes, efforts need to be scaled up, while reform is needed for areas where targets are unlikely to be achieved.

2.3.4 Goal 4 – quality education

There are 10 targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 11 indicators to monitor this goal, of which three were Tier 1 indicators (see Appendix 2.1). The only relevant indicator relevant for assessment relates to quality early childhood development but there are only sparse data available for some of the countries (Table 2.4). Given these limitations, an overall assessment for Commonwealth Pacific small states on Goal 4 is not possible.

From the data that are available, Fiji and Samoa's participation rates in early childhood education are relatively low at 50 and 30 per cent, respectively. Nauru has a relatively higher participation rate at 71 per cent. Generally, pre-primary education is less resourced than other levels in the region (UNESCO, 2015). In terms of qualified teachers, Fiji, Samoa and Tonga generally recorded close to 100 per cent trained teachers, with relatively poor rates recorded for Kiribati (especially for high school) and Solomon Islands. Fiji, Nauru, Samoa and Tonga had met MDG 2 (achieve universal primary education) and are likely to track well towards achieving SDG 4. On the other hand, Solomon Islands, Tuvalu and Vanuatu recorded mixed progress on MDG 2, while Kiribati and PNG failed to achieve universal primary education. These countries will find it difficult to achieve Goal 4 given their lower

Table 2.3 Expected Achievement of Relevant Goal 3 Targets

	Target 3.1		Target 3.2		Target 3.3		Target 3.5		Target 3.6		Target 3.7		Target 3.9		Goal 3	
	2030	2050	2030	2050	2030	2050	2030	2050	2030	2050	2030	2050	2030	2050	2030	2050
Fiji																
Kiribati																
Nauru																
PNG																
Samoa																
Solomon Is																
Tonga																
Tuvalu																
Vanuatu																

Note: Green -achieved, Yellow - mixed, Red - not achieved, Grey - insufficient information.

Table 2.4 Participation rate in organised learning (one year before the official primary entry age) (%)

	1999	2000	2001	2004	2005	2006	2007	2010	2011	2012	2014
Fiji				49		50					
Nauru							89			80	71
Samoa	34	39	39					26	28	25	30
Tonga	13										

Source: UNESCO Institute for Statistics database accessed 31 October 2016

starting points. The situation is exacerbated given that Goal 4 not only focuses on universal participation and completion of education at all levels, but emphasises quality education, which will require more concerted effort and resources to achieve. Despite national and regional efforts, improving the quality of education for the Commonwealth Pacific small states remains a major challenge (UNESCO, 2015).

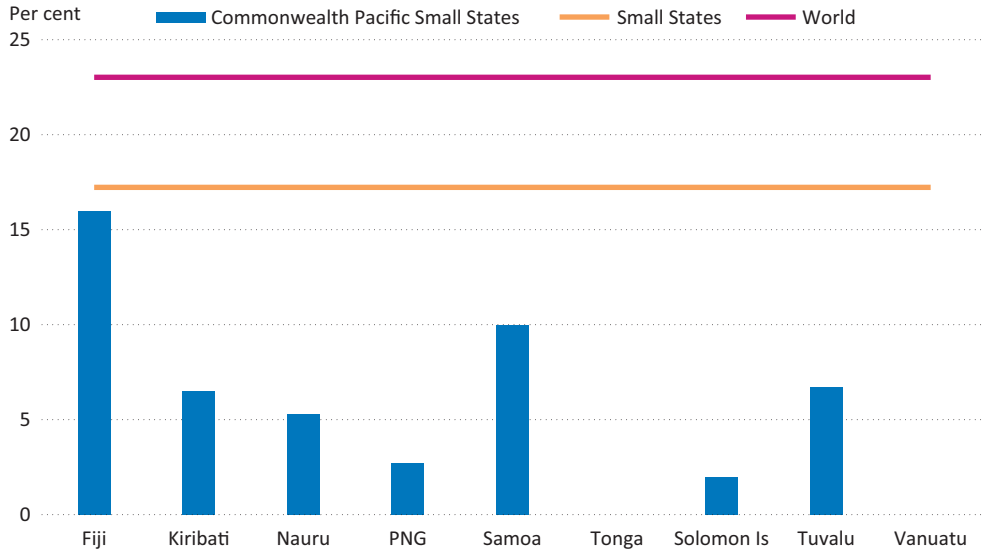
2.3.5 Goal 5 – gender equality

There are nine targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 14 indicators to monitor this goal, of which two-and-a-half[7] were Tier 1 indicators, related to Target 5.5 on women's partnership in decision-making and 5.b on the use of technology to promote the empowerment of women (see Appendix 2.1). As there are no Tier 1 indicators for the other major targets to end discrimination against women (5.1), eliminate violence against women (5.2), recognise unpaid care and domestic work (5.4), ensure universal access to sexual and reproductive health (SRH – 5.6), equal rights to economic resources (5.a) and strengthening legislation to promote gender equality (5.c), it is not possible to provide an overall assessment on Goal 5 for the Commonwealth Pacific small states.

However, for the data that are available, the majority of the Commonwealth Pacific small states have low representation of women in parliament, compared to other small states and the global average (Figure 2.5). At the end of 2016, Tonga and Vanuatu had no women in parliament. Across the countries, there are prevailing traditional views that leadership is for men. To address this issue, some states have considered reserved seats (PNG, Samoa, Solomon Islands, Tuvalu and Vanuatu), although only Samoa has been successful in amending its constitution to introduce a 10 per cent quota of women representatives into the national Legislative Assembly (PIFS, 2015a).

In terms of Target 5.1, except for Tonga, all Commonwealth Pacific small states have ratified the Convention on the Elimination of Discrimination Against Women (CEDAW). Tonga is one of the few countries in the world, along with the United States, that have not yet ratified CEDAW.[8] The biggest challenge for these countries, though, will be to eliminate violence against women, as recent studies for Fiji, Kiribati, PNG, Solomon Islands and Vanuatu reported that over 60 per cent of women had experienced physical and/or sexual violence (PIFS, 2015a). In terms of unpaid care and domestic work, there is little research on this area for the Pacific region, as it is hindered by measurement and data issues. However, with the importance

Figure 2.5 Proportion of seats held by women in national parliaments



Source: World Bank Development Indicators

of subsistence economies for most of the countries and prevailing attitudes towards women's traditional domestic roles, it is an area that warrants attention.

On the other hand, increased attention has been paid by governments to sexual and reproductive health in the last three decades. However, outcomes for the SRH-related International Conference on Population Development goals, as well as the related MDG targets (5a and 5b) have been uneven (UNFPA, 2013; PIFS, 2015a). Common barriers for the Commonwealth Pacific small states include access to remote rural areas, traditional or cultural attitudes, especially to sex and contraception, as well as lack of budget and family approval (UNFPA, 2013). Traditional and cultural norms also prevent women from gaining equal rights to economic resources, such as in Tonga, where women cannot legally own land. No doubt much work is needed to strengthen legislation to promote gender equality. Therefore, it is clear that Commonwealth Pacific small states will need to overcome significant challenges to achieve Goal 5.

2.3.6 Goal 6 – clean water and sanitation

There are eight targets under this goal, two of which relate to the means of implementation. The IAEG-SDGs proposed 11 indicators to monitor this goal, of which four were Tier 1 indicators (see Appendix 2.1). The three relevant Tier 1 indicators relate to the targets on access to clean water (6.1) and sanitation (6.2), as well as the participation of local communities in improving water and sanitation management (6.b).

Fiji and Tonga were the only countries that achieved the related MDG Target 7c on water and sanitation, with Nauru, Samoa, Tuvalu and Vanuatu recording mixed

progress and Kiribati, PNG and Solomon Islands failing to achieve the target by 2015 (PIFS, 2015a). The Tier 1 indicators for SDG Targets 6.1 and 6.2 go beyond the indicators of basic level of access to water and sanitation that were used to monitor MDG Target 7c; indicators now include dimensions of accessibility, availability, quality (water) and safety (sanitation) (IAEG-SDGs, 2016b). As such, data are not currently available for these enhanced indicators. The ambition of the SDG targets is also much higher than the related MDG targets, which will make it more challenging for the Commonwealth Pacific small states to achieve them. The countries that achieved the related MDG targets on water and sanitation need to build on those foundations, those that recorded mixed progress need to scale up efforts, while those countries that failed to achieve the MDG targets need to undertake serious reform.

2.3.7 Goal 7 – affordable and clean energy

There are five targets under this goal, two of which relate to the means of implementation. The IAEG-SDGs proposed six indicators to monitor this goal, of which four were Tier 1 indicators related to the targets on access to energy (7.1), renewable energy (7.2) and energy efficiency (7.3) (see Appendix 2.1).

In terms of access, the latest data indicate that Samoa has achieved universal access to electricity, while Tonga is close with 96 per cent coverage (Appendix 2.3). The rest of the Commonwealth Pacific small states reported less than 60 per cent coverage. There were no reported data for Nauru to make an assessment. PNG, Solomon Islands and Vanuatu, which have majority rural populations, have relatively low levels of access to electricity (see Figure 9.4 in Chapter 9). Based on trends, only Samoa and Tonga are expected to achieve universal access to electricity, while the rest of the Commonwealth Pacific small states are unlikely to achieve this target by 2030 or 2050 (Appendix 2.3). Geographical isolation and terrain, dispersed populations, and high infrastructure and transport costs are key barriers to the electrification of rural and outer island areas of these countries (see also Chapter 9).

Although all the Commonwealth Pacific small states have ambitious renewable energy targets (see Table 9.1 in Chapter 9), current data and trends suggest that many will fall short of these targets, with only Fiji expected to increase the share of renewable energy in total final energy consumption (Appendix 2.3). In addition, based on the energy intensity indicator for Target 7.3, only Fiji, Samoa and Solomon Islands are expected to improve their energy efficiency by 2030, with the other countries not expected to achieve this target even in 2050. While the energy intensity indicator is an imperfect proxy as it can be affected by factors other than efficiency (climate, structure of the economy, nature of economic activities) (IAEG-SDGs, 2016c), the current general lack of attention to energy efficiency by Commonwealth Pacific small states (see Chapter 9) also signals that this target is unlikely to be met if this inattention continues.

For targets where countries are expected to record mixed outcomes, efforts need to be scaled up, while reform is needed for areas where targets are unlikely to be achieved (Table 2.5).

Table 2.5 Expected Achievement of Relevant Goal 7 Targets

	Target 7.1		Target 7.2		Target 7.3		Goal 7	
	2030	2050	2030	2050	2030	2050	2030	2050
Fiji								
Kiribati								
Nauru								
PNG								
Samoa								
Solomon Is								
Tonga								
Tuvalu								
Vanuatu								

Note: Green - achieved, Yellow - mixed, Red - not achieved, Grey - insufficient information.

2.3.8 Goal 8 – decent work and economic growth

There are 12 targets under this goal, two of which relate to the means of implementation. The IAEG-SDGs proposed 17 indicators to monitor this goal, of which 10 were Tier 1 indicators (Appendix 2.1). Consequently, assessment is made on the following targets, for which data are available (see Appendix 2.4):

- **Target 8.1 Economic Growth:** Based on the Tier 1 indicator (annual growth rate of real GDP per capita) trends, Fiji, Samoa and Solomon Islands are expected to sustain economic growth (target met by 2030), Tuvalu and Vanuatu are expected to record zero growth (mixed outcome in 2030 and 2050), while Kiribati, PNG and Tonga are expected to record negative growth rates (target unmet in 2030 and 2050). These outcomes are consistent with the historical performance on economic growth (see Figure 2.1). Although PNG generally records strong economic growth, led by the extractive industry, population growth rates outweigh the increase in economic activity. PNG's population is expected to increase significantly to around 13 million by 2030 (Figure 2.2). There were no reported data available for Nauru to make an assessment.
- **Target 8.2 Economic Productivity:** Data for the Tier 1 indicator (annual growth rate of real GDP per employed person) are only available for Fiji, PNG and Solomon Islands. Based on trends, Fiji is expected to record an increase in economic productivity, albeit at a slower rate than the prevailing level (mixed outcome), while PNG and Solomon Islands are expected to record a higher annual growth rate of real GDP per employed person (target met).
- **Target 8.5 Full Employment:** Consistent time series data for the unemployment rate (Tier 1 indicator) are only available for Fiji, PNG and Solomon Islands. According to trends on this indicator, Fiji's unemployment rate is expected to increase (target unmet), while PNG and Solomon Islands are expected to record marginal declines in their unemployment rate (mixed outcome).
- **Target 8.6 Youth in Employment, Education or Training:** There is insufficient information to make an assessment on this target as data are only available for 2012 for Samoa.

- **Target 8.10 Financial Inclusion:** There are two Tier 1 indicators for this target, related to access to commercial bank branches and automated teller machines (ATMS) per 100,000 adults, as well as the proportion of adults that hold a bank account. In terms of the first indicator, the number of commercial bank branches is expected to increase over time for the Commonwealth Pacific small states (except Kiribati and Solomon Islands). ATMs are also expected to increase for all nine countries. However, the key indicator for this target is the proportion of adults that have an account with a bank or financial institution. Unfortunately, no reported data are available for this indicator, which prevents an overall assessment on this target.

With the lack of data for many of the countries, it is hard to make an overall assessment. However, for targets where countries are expected to record mixed outcomes, efforts need to be scaled up, while reform is needed for areas where targets are unlikely to be achieved (Table 2.6).

2.3.9 Goal 9 – industry, innovation and infrastructure

There are eight targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 12 indicators to monitor this goal, of which eight were Tier 1 indicators (Appendix 2.1). However, data are only available for three Tier 1 indicators for Target 9.2 (promoting industrialisation) and 9.4 (resource-use efficiency and clean technologies).

Nevertheless, given the narrow resource base, distance from markets, high transportation costs, small domestic market and limited opportunities for the private sector for most of the Commonwealth Pacific small states, particularly the relatively resource-poor countries (Kiribati, Nauru and Tuvalu), achieving this goal will be extremely difficult. Except for Fiji, the manufacturing value added as a proportion of GDP is less than 10 per cent for the Commonwealth Pacific small states for which data are available, and based on current trends, none of the countries are expected to significantly grow this sector (Figure 2.6).

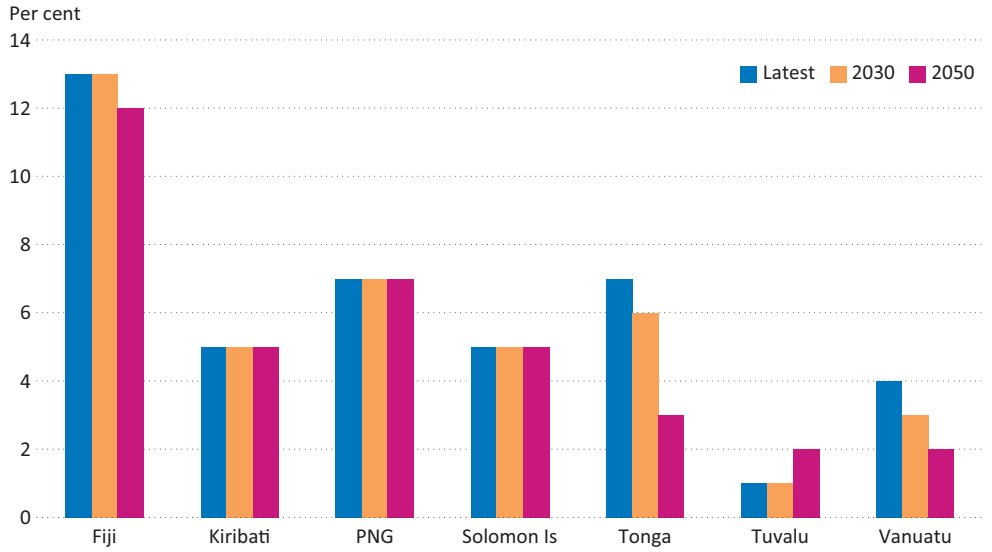
In terms of resource-use efficiency and clean technologies (Target 9.4),[9] the current lack of attention to energy efficiency measures indicates that this target is also likely to be unmet if the current trend continues.

Table 2.6 Relevant Goal 8 Targets

	Target 8.1		Target 8.2		Target 8.5		Target 8.6		Target 8.10		Goal 8	
	2030	2050	2030	2050	2030	2050	2030	2050	2030	2050	2030	2050
Fiji												
Kiribati												
Nauru												
PNG												
Samoa												
Solomon Is												
Tonga												
Tuvalu												
Vanuatu												

Note: Green - achieved, Yellow - mixed, Red - not achieved, Grey - insufficient information.

Figure 2.6 Manufacturing Value Added as a proportion of GDP



Source: Latest data for Fiji (2015), Kiribati (2013), PNG (2004), Solomon Islands (2006), Tonga (2014), Tuvalu (2012) and Vanuatu (2014) from World Bank Development Indicators. Author's calculation for 2030 and 2050 based on trend

Overall, this means that none of the Commonwealth Pacific small states for which data are available are expected to achieve this goal. While there is a possibility that reform could enhance the industrialisation prospects of the larger economies of Fiji, PNG and the Solomon Islands, it will be unrealistic to expect the same for the smaller economies, particularly Kiribati, Nauru and Tuvalu.

2.3.10 Goal 10 – reduced inequalities

There are 10 targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 11 indicators to monitor this goal, of which four-and-a-half[10] were Tier 1 indicators (Appendix 2.1). Unfortunately, there are no reported data for any of the countries for the relevant Targets (10.1 and 10.4).

Target 10.1 sets out to grow the incomes of the bottom 40 per cent of the population at a rate higher than the national average. This target can be linked to the achievement of Goal 1 (no poverty). Given that PNG, Samoa, Tonga, Tuvalu and Vanuatu are unlikely to meet Goal 1, achieving Target 10.1 will also be difficult without serious reform. Fiji is, however, likely to meet Target 10.1 based on its positive outlook for Goal 1. Ensuring equal opportunities and reducing inequalities of outcome (Target 10.3) are also closely dependent on the outcome of Target 5.1 to end all forms of discrimination against women and girls. For Target 10.4, the importance of social protection schemes in reducing equality is reiterated. However, as discussed earlier under Goal 1, traditional social protection schemes are declining, while there are only a few formal social protection schemes in place in the Commonwealth Pacific small states. Consequently, it will be quite challenging for countries to achieve Goal 10 without serious reform.

2.3.11 Goal 11 – sustainable cities and communities

There are 10 targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 15 indicators to monitor this goal, of which two were Tier 1 indicators, related to Target 11.1 (housing) and 11.6 (pollution) (see Appendix 2.1). Unfortunately, there are no reported data for any of the countries for the relevant indicators.

Target 11.1 aims to ensure universal access to adequate, safe and affordable housing and basic services, and upgrade slums, which is much broader than the related MDG Target 7.d (improve the lives of slum dwellers). While there were also insufficient data for the MDG Target 7.d, anecdotal evidence suggested that Kiribati, PNG, Solomon Islands and Vanuatu failed to achieve this target by 2015, with Fiji recording mixed outcomes (PIFS, 2015a). The number of very poor squatters has increased in urban areas of Suva (Fiji), Honiara (Solomon Islands) and Port Moresby (PNG) due to a lack of access to affordable land and safe housing (PIFS, 2015a). In Betio (Kiribati), there are major challenges of high-density housing and lack of access to clean water and proper sanitation, while in Port Vila (Vanuatu), almost 30 per cent of the population live in makeshift houses (PIFS, 2015a). There is insufficient information to make an assessment for Samoa, Tonga and Tuvalu.

In terms of Target 11.6, waste disposal is one of the significant challenges for the majority of the urban centres of the Commonwealth Pacific small states, as waste and water requirements of growing urban populations threaten fragile ecosystems (Dowling and McGuirk, 2016, UNESCAP and UN-Habitat, 2015). Kiribati and Tuvalu, with fragile atoll environments, are particularly prone to environmental hazards as high population densities impact water supply systems, sanitation and solid waste management (see Chapter 8).

The Commonwealth Pacific small states are also highly vulnerable to natural disasters, which can cripple urban housing and infrastructure, and rural communities, as the recent example of Cyclone Pam in Vanuatu (2015) and Cyclone Winston in Fiji (2016) demonstrated. These vulnerabilities will make it difficult for these countries to achieve Target 11.5 (reduce the impact of disasters).

In addition, with the populations of all the Commonwealth Pacific small states set to increase rapidly to 2050, particularly for PNG and Solomon Islands, rural-urban migration is expected to increase in tandem. This will place immense pressure on already precarious situations in the urban centres, particularly in terms of access to adequate, safe and affordable housing and basic services (see Chapter 8), including transport. There are already growing pressures on transport systems in urban centres, as well as difficulties in reaching many rural and outer island communities.

Customary land tenure systems in Melanesia, Polynesia and Micronesia also present challenges to housing and infrastructure provision, providing a disincentive to invest in land development and urban infrastructure (Dowling and McGuirk 2016, UNESCAP and UN-Habitat 2015). In addition, climate change poses a significant risk to the sustainability of urban centres, particularly in the low-lying atoll nations (Kiribati, Tuvalu) that face an existential risk due to sea level rise (see Chapter 8). Climate-induced migration will, therefore, likely be a challenge towards 2050 (see

Chapter 8). Moreover, climate change is expected to increase the frequency and severity of natural disasters, which is a major risk to the sustainability of the highly vulnerable cities and communities in the Commonwealth Pacific small states.

2.3.12 Goal 12 – responsible consumption and production

There are 11 targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 13 indicators to monitor this goal, of which only one is a Tier 1 indicator: to monitor Target 12.4 on the management of chemicals and waste (see Appendix 2.1). Given the lack of Tier 1 indicators, an overall assessment on Goal 12 cannot be made for the Commonwealth Pacific small states.

The Tier 1 indicator for Target 12.4 calls for the monitoring of commitments and obligations to the international multilateral environmental agreements on hazardous waste and other chemicals. In this regard, many of the Commonwealth Pacific small states have become parties to several global and regional treaties (SPREP, 2016a):

- Treaties related to waste and chemicals management: Basel Convention, Minamata Convention on Mercury, Montreal Protocol, Rotterdam Convention, Stockholm Convention, and Waigani Convention.
- Treaties related to marine pollution: International Convention for the Prevention of Pollution from Ships (MARPOL), London Convention, Intervention Convention, Convention on Civil Liability for Oil Pollution Damage, International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Hazardous and Noxious Substances Convention, Bunkers Convention, Anti-fouling Substances Convention, Ballast Water and Sediments, Nairobi Convention on the Removal of Wrecks, and Noumea Convention.

Countries have also prepared national strategies and policies addressing waste, and chemicals and pollution management, although many are at different stages of implementation (Table 2.7).

2.3.13 Goal 13 – climate action

There are five targets under this goal, two of which relate to the means of implementation. The IAEG-SDGs proposed seven indicators to monitor this goal, none of which are Tier 1 indicators, which hampers efforts to assess the Commonwealth Pacific small states' prospects on this goal.

However, as Commonwealth Pacific small states are some of the most vulnerable to the effects of climate change, many have been at the forefront of global climate negotiations and national action. All nine countries have ratified the Paris Agreement, with Fiji the first country in the world to ratify. In addition, the majority of the Commonwealth Pacific small states have identified climate change as one of their key national priorities, as well as adopting national climate change policies (see Chapter 9). Given the integrated nature of climate change and natural disasters, many countries have also integrated their climate change and natural disaster policies. Tonga was the first in the Pacific region to adopt a joint national action plan for disaster risk management and climate change in 2010, followed by Tuvalu in 2012,

Table 2.7 Status of waste, chemicals and pollution policies

	Waste Policy Statement	Solid Waste	Healthcare Waste	Other Hazardous Waste	Liquid Waste	Chemicals	Oil Spill Contingency	Air Pollution
Fiji		O	D	O	O	C**	D	O
Kiribati	X	D*	D*	D*	X*	C**	D	
Nauru		D			D*	C**	D	
PNG					X*	C**	D	
Samoa		D*	X	D*	X	D	D	
Solomon Is		X*	D*		X1	C2	D	
Tonga		D*		D*	D*	C2	X	
Tuvalu		O			X*	C2	D	
Vanuatu		X*	X*		X*		D	

Note: C – preparation has commenced; D – document has been prepared but not yet endorsed; O – endorsed document is no longer current; X – document has been endorsed and is current; * – part of an integrated policy, strategy or plan; ** – for persistent organic pollutants only

Source: SPREP, 2016a

with the rest of the Commonwealth Pacific small states committed to integrating these policies (UNISDR, 2013). An integrated approach to address climate change and disaster risk management is also undertaken at the regional level through the 2016 Framework for Resilient Development in the Pacific.

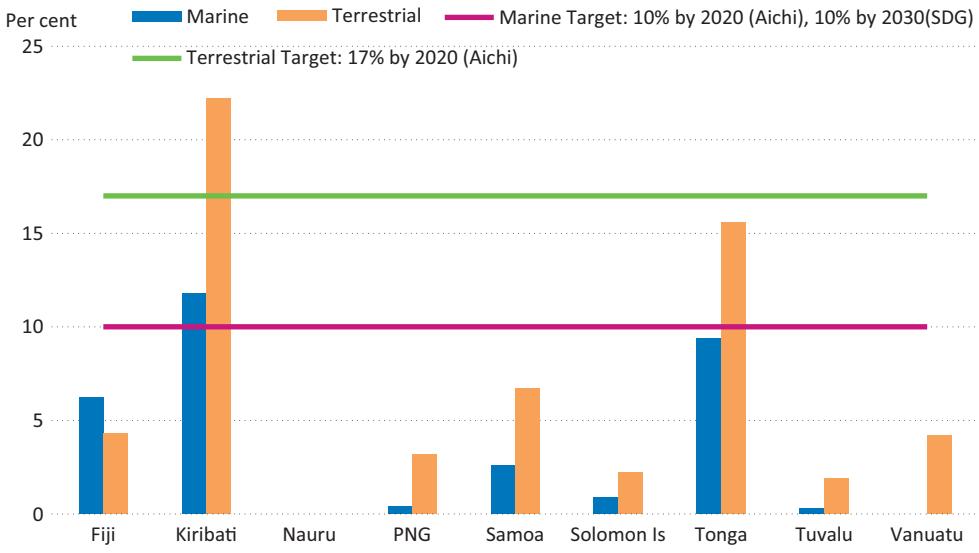
2.3.14 Goal 14 – life below water

There are 10 targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 10 indicators to monitor this goal, of which two are Tier 1 indicators to monitor Targets 14.4 (fish stocks) and 14.5 (marine protected areas) (see Appendix 2.1). Given the lack of Tier 1 indicators, an overall assessment on Goal 14 cannot be made for the Commonwealth Pacific small states.

Nevertheless, the importance of the Pacific Ocean to the Commonwealth Pacific small states is unquestionable, with a strong reliance on the ocean for food security, as well as a source of income from fisheries, transport and tourism, deep sea minerals, energy and bioprospecting (see Chapter 5).

For Target 14.4, the proportion of fish stocks within biologically sustainable levels is available at an aggregate rather than country level, and generally requires collective action. Offshore fisheries are an important source of government revenue for the Commonwealth Pacific small states, with only bigeye tuna considered overfished (see Chapter 5). In terms of Target 14.5, Commonwealth Pacific small states have established largescale marine protected areas, with Kiribati's Phoenix Islands Protected Area and World Heritage site double the target of 10 per cent (Figure 2.7). Tonga comes close to the target at 9.6 per cent. However, marine protected areas are

Figure 2.7 Total Protected Area Coverage in relation to priority sites



Source: SREP, 2016b

not the most suitable management tool for managing fish stocks, particularly tuna which is a highly migratory species (see Chapter 5).

In terms of illegal, unreported and unregulated fishing, Commonwealth Pacific small states are making progress in this area (see Chapter 5). Countries are also trying to capitalise on other economic benefits of the ocean, particularly around tourism and deep sea mining. As these activities increase, risks to marine and coastal ecosystems will also increase. To this end, the management of chemicals and waste (Target 12.4) will be critical and it is important that countries honour treaties related to marine pollution (see Goal 12).

2.3.15 Goal 15 – life on land

There are 12 targets under this goal, three of which relate to the means of implementation. The IAEG-SDGs proposed 14 indicators to monitor this goal, of which three are Tier 1 indicators (see Appendix 2.1). Given the breadth of targets and the limited relevant Tier 1 indicators to cover them, an overall assessment for Goal 15 is not possible.

The Tier 1 indicators for Target 15.1 monitors forest area as a proportion of total land area (Table 2.8), as well as terrestrial and freshwater protected areas. On forest cover, Fiji and Samoa have actively conserved forest area but threats to forest resources remain (PIFS, 2015a). On the other hand, forest cover is generally declining in PNG and Solomon Islands, linked to their extractive industries (mining, logging), which exact a heavy toll on forests. In Nauru, mined-out phosphate lands cover almost 90 per cent of the island with most of the island uninhabitable and barren (PIFS, 2015a).

However, regarding freshwater ecosystems, there are limited studies of wetlands, with many countries having limited surface and groundwater freshwater resources – Nauru, Kiribati, Tonga and Tuvalu have no significant water resources (SPREP, 2016b). The majority of the Commonwealth Pacific small states have ratified the Convention on Biological Diversity where parties have agreed to meet biodiversity-related targets known as the Aichi Targets, including protecting 17 per cent of terrestrial areas by 2020 (SPREP, 2016b). Meeting this target has been difficult for most, with only Kiribati achieving the target (Figure 2.7), which does not augur well for the achievement of SDG Target 15.1.

The Pacific region is home to one of the world's biodiversity hotspots, with a large number of species found only in the region and nowhere else (SPREP, 2016c). However, the Pacific faces some of the highest extinction rates in the world, largely caused by the impact of invasive species (SPREP, 2016c) (Target 15.8), which are currently not well managed and remain out of control (SPREP, 2016b). While all the Commonwealth Pacific small states are engaged in some invasive species management activities, more concerted effort is required to address biosecurity issues (SPREP, 2016b). As the lack of resources has limited past implementation efforts, considerable investment of resources in combating invasive species will be required to achieve Target 15.8.

Table 2.8 Forest area as a proportion of total land area (%)

	1990	1995	2000	2010	2011	2012	2013	2014	2015	2020	2030	2040	2050
Fiji	52	53	54	54	55	55	55	55	56	56	57	58	60
Kiribati	15	15	15	15	15	15	15	15	15	15	15	15	15
Nauru	0	0	0	0	0	0	0	0	0	0	0	0	0
PNG	74	74	74	74	74	74	74	74	74	74	74	74	74
Samoa	46	53	60	60	60	60	60	60	60	65	67	70	72
Solomon Is	83	82	81	79	79	79	78	78	78	77	75	73	71
Tonga	13	13	13	13	13	13	13	13	13	13	13	13	13
Tuvalu	33	33	33	33	33	33	33	33	33	33	33	33	33
Vanuatu	36	36	36	36	36	36	36	36	36	36	36	36	36

Source: World Bank Development Indicators (1990–2015), author's calculations based on trend (2020–2050)

2.3.16 Goal 16 – peace, justice and strong institutions

There are 12 targets under this goal, two of which relate to the means of implementation. The IAEG-SDGs proposed 23 indicators to monitor this goal, of which six are Tier 1 indicators (see Appendix 2.1). However, there are no reported data for the relevant Tier 1 indicators, preventing an overall assessment on this goal.

Nevertheless, Target 16.1 is closely related to Target 5.2 to end violence against women. In this regard, given the prevailing high levels of violence against women (see Goal 5), Commonwealth Pacific small states will also find it challenging to achieve Target 16.1. In addition, human trafficking (Target 16.2) is an emerging issue, with cases reported in Fiji, PNG, Samoa, Tonga and Vanuatu (Lindley and Beacroft, 2011). The USA places PNG on a Tier 3 ranking for countries whose governments do not fully meet the minimum standards on the USA's Trafficking Victims Protection Act (TVPA) and are not making significant efforts to do so, while Kiribati, Solomon Islands and Tonga are on the Tier 2 Watch List (countries that do not comply with TVPA but are making significant efforts to meet standards plus have significantly increasing numbers of victims and may have failed to provide evidence of increasing efforts), with Fiji on Tier 2 (countries that do not comply with TVPA but are making significant efforts to meet standards) (US Department of State, 2016).

According to the World Bank's Worldwide Governance Indicators,[11] in the last ten years, percentile rankings of perceptions on the control of corruption, voice and accountability, political stability and absence of violence/terrorism have improved for the majority of the Commonwealth Pacific small states (Figure 2.8). On the other hand, percentile rankings have declined for the majority of the nine states on the rule of law, government effectiveness and regulatory quality (Figure 2.8).

2.4 Preparing for a challenging future

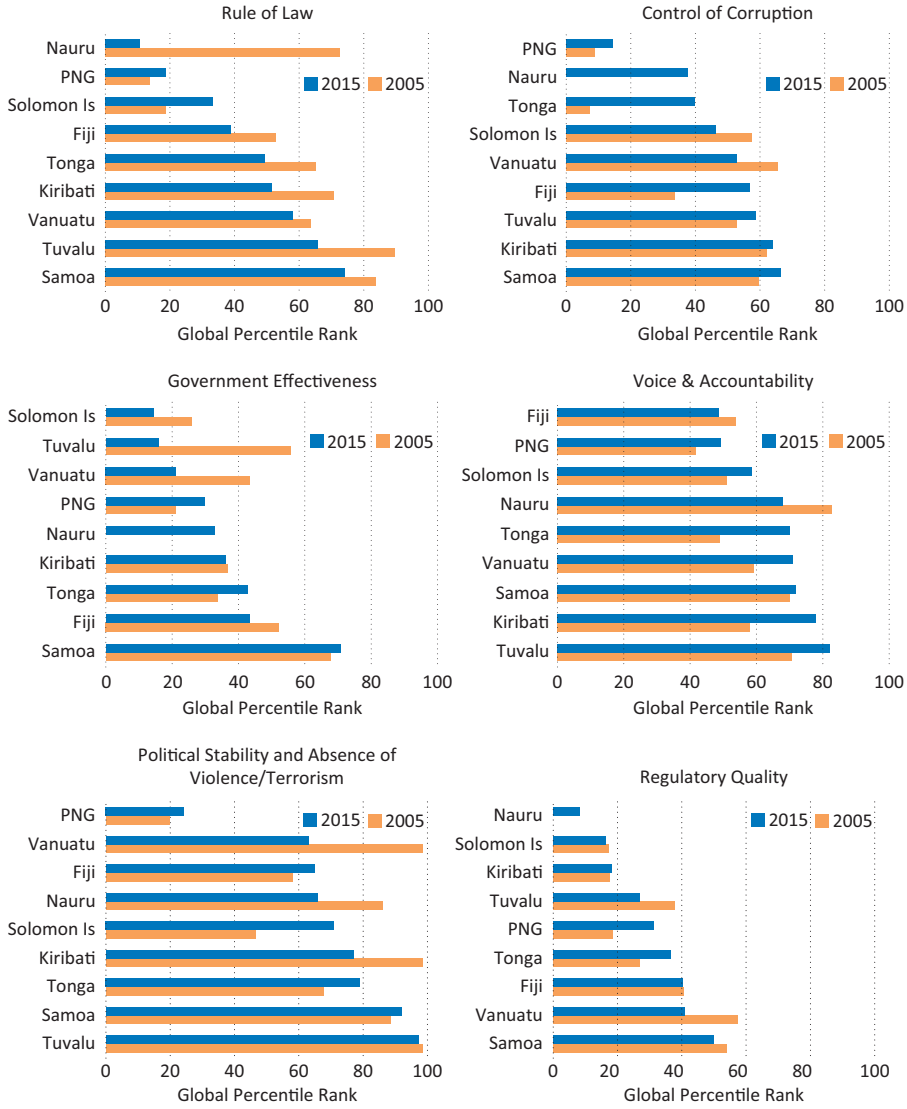
Overall, for those targets where data are available, the outlook for the Commonwealth Pacific small states in achieving the SDGs by 2030 is not encouraging. None of the countries are expected to achieve any of the targets, with many targets unlikely to be met by 2030 (Figure 2.9). Countries are not expected to achieve the SDGs even in 2050, with the exception of Fiji's performance on Goals 1 and 2 (Figure 2.9).

What is striking from the assessment is the current data gaps, with data not currently available for the majority of the Tier 1 indicators. The situation is exacerbated given that the current Tier 1 indicators only cover just over one-third of the indicators meant to track all the SDGs.

Despite the data gaps, current research and proxy indicators for the majority of the goals as discussed in the previous sections, indicate that it will be challenging for the Commonwealth Pacific small states to change this trajectory into 2030 and 2050. It is also clear that 'business-as-usual' strategies are unlikely to meet the ambition of the SDGs.

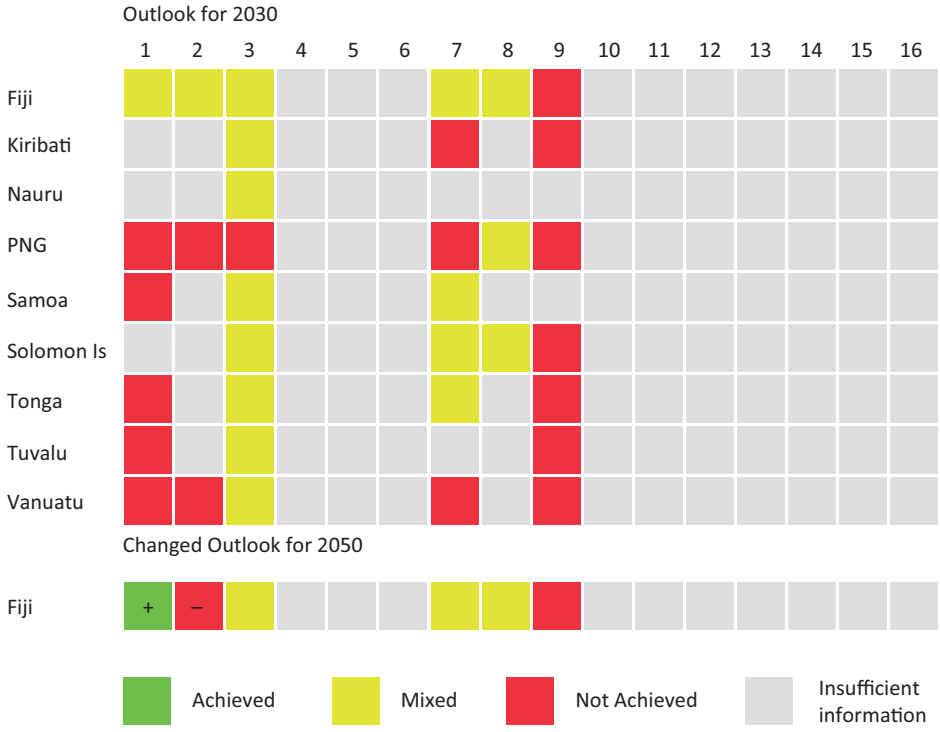
Fortunately, unlike the experience of the MDGs, there is wide national ownership of the SDGs in the Pacific region, with Pacific Islands Forum[12] Leaders committed to the implementation of the SDGs, paying particular attention to the 'unfinished

Figure 2.8 Worldwide governance indicators



Note: (a) Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. (b) Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as 'capture' of the state by elites and private interests. (c) Government Effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. (d) Voice and Accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media. (e) Political Stability and Absence of Violence/Terrorism captures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism. (f) Regulatory Quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.
Source: World Bank

Figure 2.9 SDGs Score Card



business' of the MDGs (PIFS, 2015b). Many of the Commonwealth Pacific small states have also already integrated the achievement of the SDGs into their national development plans:

- Kiribati Development Plan 2016–2019
- Strategy for the Development of Samoa 2016/17-2019/20
- Solomon Islands National Development Strategy 2016–2035
- Tonga Strategic Development Framework 2015–2025
- Tuvalu Te Kakeega III, National Strategy for Sustainable Development 2016–2020
- Vanuatu 2030, The People's Plan, National Sustainable Development 2016–2030

Samoa was also one of the first of the small states in 2016 to lodge its national voluntary review on the SDGs as part of the follow-up and review mechanism of the 2030 Agenda. At the regional level, Pacific Islands Forum Leaders also agreed to tailor the SDG indicators to the Pacific context and to use these regional indicators to monitor the Pacific's progress on the SDGs, including towards the Framework for Pacific Regionalism and the SAMOA Pathway (PIFS, 2015b).

As the region and the Commonwealth Pacific small states prepares for the challenges ahead, there is merit in guiding these plans by taking a long-term perspective on these development challenges, which is the aim of the Pacific 2050 exercise. Important lessons, with broader applications, can be learnt by drawing together the shared

experiences of a few focus areas relevant for all the Commonwealth Pacific small states (see Chapter 1). Ultimately, the main aim is to shed new light and thinking on old and emerging issues.

The findings of this chapter clearly highlight that serious reform is required in many areas in order for the Commonwealth Pacific small states to achieve the SDGs by 2030 and sustain these achievements into 2050. Uncovering the gaps in current national and regional strategies is critical to designing reforms that can change the current trajectory. This is the central focus of Chapters 3 to 9.

Notes

1 This chapter benefited from inputs from Jimmie Rodgers, Howard Haughton and Naadira Ogeer. Valuable comments were received from Denny Lewis-Bynoe, John Connell, Garry Wiseman and Anthony Polack.
2 The other five Pacific island countries include Cook Islands, Federated States of Micronesia, Niue, Marshall Islands and Palau. Cook Islands and Niue are self-governing states in free association with New Zealand. Although New Zealand is a member of the Commonwealth, Cook Islands and Niue are not included as Commonwealth Pacific small states in this Report.
3 French territories: French Polynesia, New Caledonia, Wallis & Futuna; New Zealand territory: Tokelau; British territory: Pitcairn Island; United States territories: American Samoa, Guam, Northern Mariana Islands. Although New Zealand and the United Kingdom are members of the Commonwealth, Tokelau and Pitcairn Island are not included as Commonwealth Pacific small states in this Report.
4 Source - World Bank Development Indicators.
5 The full list of targets can be found here: https://sustainabledevelopment.un.org/post2015/transformingourworld
6 Population growth rates based on SPC, 2016.
7 The indicator for Target 5.5 is the proportion of seats held by women in a) national parliaments and b) local governments. Part a) is a Tier 1 indicator while part b) is a Tier 3 indicator.
8 Ratification status by country can be found here: http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?Treaty=CEDAW&Lang=en
9 Although data are available for the Tier 1 indicator (CO_2 emission per unit of value added), it is a difficult quantum to assess at the country level.
10 The indicator for Target 10.b is the total resource flows for development, by recipient and donor countries and type of flow – a) official development assistance; b) foreign direct investment. Part a) is a Tier 1 indicator while part b) is a Tier 2 indicator.
11 http://info.worldbank.org/governance/wgi/index.aspx#home
12 The Pacific Islands Forum consists of the 14 Pacific island countries, including the nine Commonwealth Pacific small states. See also note 2.

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Appendix 2.1 – Data Description

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
1 – No Poverty	1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than $1.25 a day	1.1.1 Proportion of population living below the international poverty line		Not assessed as not relevant for the Pacific context.
	1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions	1.2.1 Proportion of population living below the national poverty line	Fiji (2003, 2010), Kiribati (2006), PNG (1990, 2010), Samoa (2002, 2010), Solomon Is (2005), Tonga (2001, 2010), Tuvalu (2006, 2010), Vanuatu (2006, 2010)	SPC NMDI database, accessed 23 June 2016
2 – Zero Hunger	2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round	2.1.1 Prevalence of undernourishment	1992–2016 for Fiji, Kiribati, Samoa, Solomon Is, Vanuatu	FAO database, accessed 9 February 2016
		2.1.2 Prevalence of moderate or severe food insecurity in the population, based on the Food Insecurity Experience Scale (FIES)	No reported data	Not assessed

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons	2.2.1 Prevalence of stunting (height for age <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age	Fiji (1993, 2004), Nauru (2007), PNG (2005, 2011), Samoa (1999), Solomon Is (2007), Tonga (2012), Tuvalu (2007), Vanuatu (1996, 2007, 2013)	UNICEF, WHO, World Bank Joint Child Malnutrition Estimate dataset, September 2015
		2.2.2 Prevalence of malnutrition (weight for height >+2 or <-2 standard deviation from the median of the WHO Child Growth Standards) among children under 5 years of age, by type (wasting and overweight)	Vanuatu (2007 at sub-national level only)	WHO Global Health Observatory data repository accessed 8 August 2016 Not assessed due to insufficient data
	2.a Increase investment, including through enhanced international co-operation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries	2.a.2 Total official flows (official development assistance plus other official flows) to the agriculture sector		Not assessed as it is a collective responsibility

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round	2.b.2 Agricultural export subsidies		Not assessed as not relevant in the context of small states, given their lack of influence on world agricultural markets
3 – Health and Well-being	3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	3.1.2 Proportion of births attended by skilled health personnel	Fiji (1990, 2013), Kiribati (1988, 2000, 2014), Nauru (2007), PNG (1990, 2006, 2010), Samoa (1991, 2009, 2014), Solomon Is (2007), Tonga (1999, 2001, 2012), Tuvalu (1990, 2002, 2007), Vanuatu (1995, 1999, 2013)	PIFS, 2015a
	3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	3.2.1 Under-five mortality rate	Fiji (1990, 2013), Kiribati (1992, 2005, 2013), Nauru (2006, 2011), PNG (1996, 2001, 2006), Samoa (2001, 2011, 2014), Solomon Is (1999, 2009), Tonga (2002, 2012), Tuvalu (1991, 2000, 2010), Vanuatu (2002, 2012)	PIFS, 2015a

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
		3.2.2 Neonatal mortality rate	1990–2015 for all nine Commonwealth Pacific small states	WHO Global Health Observatory data repository accessed 4 July 2016
	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.3.2 Tuberculosis incidence per 1,000 population	1990–2014 for all nine Commonwealth Pacific small states	WHO Global Health Observatory data repository accessed 4 July 2016
		3.3.3 Malaria incidence per 1,000 population	2000 and 2013 for PNG, Solomon Is and Vanuatu	Author's calculation from estimated malaria cases from WHO Global Health Observatory data repository accessed 18 July 2016; and population at risk for malaria (low + high) from UNDESA, Population Division (2015).
		3.3.5 Number of people requiring interventions against neglected tropical diseases	No reported data	Although no reported data available, WHO (2013) used as a basis for assessment

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol	Fiji (1961–2010), Kiribati (1961–2011), Nauru (1999–2010), PNG (1961–2011), Samoa (1961–2011), Solomon Is (1961–2011), Tonga (1990–2011), Tuvalu (1990–2011), Vanuatu (1961–2011)	WHO Global Health Observatory data repository accessed 8 August 2016
	3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents	3.6.1 Death rate due to road traffic injuries	2012 (by gender) – Fiji, PNG, Solomon Is	WHO Global Health Observatory data repository accessed 4 July 2016
	3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes	3.7.1 Proportion of women of reproductive age (aged 15–49 years) who have their need for family planning satisfied with modern methods	Kiribati (2009), Nauru (2007), PNG (2007), Samoa (2014), Solomon Is (2007), Tonga (2012), Tuvalu (2007), Vanuatu (2013)	WHO Global Health Observatory data repository accessed 4 July 2016
	3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.1 Mortality rate attributed to household and ambient air pollution	2012 – Fiji, PNG, Solomon Is	WHO Global Health Observatory data repository accessed 4 July 2016

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate	3.a.1 Age-standardised prevalence of current tobacco use among persons aged 15 years and older		Not assessed as it is a means of implementation
	3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance	3.b.2 Total net official development assistance to medical research and basic health sectors		Not assessed as it is a collective responsibility
	3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	3.c.1 Health worker density and distribution		Not assessed as it is a collective responsibility

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
4 – Quality Education	4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education	4.2.2 Participation rate in organised learning (one year before the official primary entry age), by sex	Fiji (2004, 2006), Nauru (2007, 2012, 2014), Samoa (1999–2001, 2010–2012, 2014), Tonga (1999)	UNESCO Institute for Statistics database accessed 31 October 2016
	4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries	4.b.1 Volume of official development assistance flows for scholarships by sector and type of study		Not assessed as it is a collective responsibility
	4.c By 2030, substantially increase the supply of qualified teachers, including through international co-operation for teacher training in developing countries, especially least developed countries and small island developing States	4.c.1 Proportion of teachers in: (a) pre-primary; (b) primary; (c) lower secondary; and (d) upper secondary education who have received at least the minimum organised teacher training (e.g. pedagogical training) pre-service or in-service required for teaching at the relevant level in a given country		Not assessed as it is a collective responsibility

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
5 – Gender Equality	5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life	5.5.1 Proportion of seats held by women in national parliaments	1997–2016 data available for all nine Commonwealth Pacific small states	World Bank Development Indicators database accessed 31 October 2016
		5.5.2 Proportion of women in managerial positions	No reported data	Not assessed
	5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women	5.b.1 Proportion of individuals who own a mobile telephone, by sex	No reported data	Not assessed as it is a means of implementation
6 – Clean Water and Sanitation	6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all	6.1.1 Proportion of population using safely managed drinking water services	No reported data	Although no reported data available, progress on MDG Target 7c used as a basis for assessment
	6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations	6.2.1 Proportion of population using safely managed sanitation services, including a hand-washing facility with soap and water	No reported data	Although no reported data available, progress on MDG Target 7c used as a basis for assessment

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	6.a By 2030, expand international co-operation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies	6.a.1 Amount of water- and sanitation-related official development assistance that is part of a government-co-ordinated spending plan		Not assessed as it is a collective responsibility
	6.b Support and strengthen the participation of local communities in improving water and sanitation management	6.b.1 Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	No reported data	Not assessed
7 – Affordable and Clean Energy	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	7.1.1 Proportion of population with access to electricity	1990, 2000, 2010, 2012 for all Commonwealth Pacific small states except Nauru (no reported data)	World Bank Development Indicators database accessed 31 October 2016
		7.1.2 Proportion of population with primary reliance on clean fuels and technology	No reported data	Not accessed

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	7.2.1 Renewable energy share in the total final energy consumption	1990–2011 for all Commonwealth Pacific small states except Nauru (no reported data), Samoa (1990–1995, 1999–2011) and Tuvalu (no reported data)	World Bank Development Indicators database accessed 31 October 2016
	7.3 By 2030, double the global rate of improvement in energy efficiency	7.3.1 Energy intensity measured in terms of primary energy and GDP	1990–2012 for all Commonwealth Pacific small states except Nauru and Tuvalu, which had no reported data	World Bank Development Indicators database accessed 31 October 2016
8 – Decent Work and Economic Growth	8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries	8.1.1 Annual growth rate of real GDP per capita	1991–2015 for Fiji, Kiribati, PNG, Samoa; 1991–2014 for Solomon Is, Tonga, Tuvalu and Vanuatu	World Bank Development Indicators database accessed 31 October 2016
	8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high value added and labour-intensive sectors	8.2.1 Annual growth rate of real GDP per employed person	1992–2014 for Fiji, PNG and Solomon Islands	World Bank Development Indicators database accessed 31 October 2016
	8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value	8.5.2 Unemployment rate, by sex, age and persons with disabilities	1991–2014 for Fiji, PNG and Solomon Islands	World Bank Development Indicators database accessed 31 October 2016

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training	8.6.1 Proportion of youth (aged 15–24 years) not in education, employment or training	Samoa (2012)	World Bank Development Indicators database accessed 31 October 2016 Not assessed due to insufficient data
	8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms	8.7.1 Proportion and number of children aged 5–17 years engaged in child labour, by sex and age	No reported data	Not assessed
	8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment	8.8.1 Frequency rates of fatal and nonfatal occupational injuries, by sex and migrant status	No reported data	Not assessed
		8.8.2 Increase in national compliance of labour rights (freedom of association and collective bargaining) based on International Labour Organization (ILO) textual sources and national legislation, by sex and migrant status	No reported data	Not assessed

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all	8.10.1 Number of commercial bank branches and automated teller machines (ATMs) per 100,000 adults	Commercial banks per 100,000 adults: 2004–2015 for Fiji, PNG, Solomon Is, Tonga and Vanuatu; Kiribati (2011–2013), Samoa (2001–2015).ATMs per 100,000 adults: 2004–2015 for Fiji, PNG, Solomon Is, Tonga and Vanuatu, Kiribati (2011–2013), Samoa (2001–2002), 2004–2015)	World Bank Development Indicators database accessed 31 October 2016
		8.10.2 Proportion of adults (15 years and older) with an account at a bank or other financial institution or with a mobile money-service provider	No reported data	Not assessed
	8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-related Technical Assistance to Least Developed Countries	8.a.1 Aid for Trade commitments and disbursements		Not assessed as it is a collective responsibility

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
9 – Industry, Innovation and Infrastructure	9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.2 Passenger and freight volumes, by mode of transport	No reported data	Not assessed
	9.2 Promote inclusive and sustainable industrialisation and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	9.2.1 Manufacturing value added (MVA) as a (i) proportion of GDP and (ii) per capita *MVA as a proportion of GDP more appropriate indicator for the Commonwealth Pacific small states than MVA per capita	MVA as a proportion of GDP: Fiji (1990–2015), Kiribati (1990–2013), PNG (1990–2004), Solomon Is (1990–2006), Tonga (1990–2014), Tuvalu (2000–2012), Vanuatu (1990–2014)	World Bank Development Indicators database accessed 31 October 2016
		9.2.2 Manufacturing employment as a proportion of total employment	No reported data	Not assessed

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	9.4.1 CO_2 emission per unit of value added	1990–2013 for all Commonwealth Pacific small states except Nauru and Tuvalu, for which data was not available	World Bank Development Indicators database accessed 31 October 2016
	9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	9.5.1 Research and development expenditure as a proportion of GDP	No reported data	Not assessed
		9.5.2 Researchers (in full-time equivalent) per million inhabitants	No reported data	Not assessed
	9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States	9.a.1 Total official international support (official development assistance plus other official flows) to infrastructure		Not assessed as it is a collective responsibility

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	9.c.1 Proportion of population covered by a mobile network, by technology	No reported data	Not assessed as it is a means of implementation
10 – Reduced Inequalities	10.1 By 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average	10.1.1 Growth rates of household expenditure or income per capita among the bottom 40 per cent of the population and the total population	No reported data	Not assessed
	10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality	10.4.1 Labour share of GDP, comprising wages and social protection transfers	No reported data	Not assessed
	10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions	10.6.1 Proportion of members and voting rights of developing countries in international organisations		Not assessed as it is a collective responsibility
	10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements	10.a.1 Proportion of tariff lines applied to imports from least developed countries and developing countries with zero-tariff		Not assessed as it is a collective responsibility

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes	10.b.1 Total resource flows for development, by recipient and donor countries and type of flow (i) official development assistance		Not assessed as it is a collective responsibility
11 – Sustainable Cities and Communities	11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing	No reported data	Not assessed
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)	No reported data	Not assessed
12 – Sustainable Consumption and Production	12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment	12.4.1 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement	No reported data	Not assessed

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
14 – Life Below Water	14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics	14.4.1 Proportion of fish stocks within biologically sustainable levels	Not available by country	Not assessed
	14.5 By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information	14.5.1 Coverage of protected areas in relation to marine areas	2014 for all Commonwealth Pacific small states	World Bank Development Indicators database accessed 31 October 2016
15 – Life on Land	15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements	15.1.1 Forest area as a proportion of total land area	1990–2015 for all Commonwealth Pacific small states	World Bank Development Indicators database accessed 31 October 2016
		15.1.2 Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type	2013 data available for terrestrial protected areas for all Commonwealth Pacific small states	SPREP, 2016b

(*Continued*)

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	15.a Mobilise and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems	15.a.1 (i) Official development assistance on conservation and sustainable use of biodiversity and ecosystems		Not assessed as it is a collective responsibility
	15.b Mobilise significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation			
16 – Peace, Justice and Strong Institutions	16.1 Significantly reduce all forms of violence and related death rates everywhere	16.1.1 Number of victims of intentional homicide per 100,000 population, by sex and age	No reported data	Not assessed
	16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all	16.3.2 Un-sentenced detainees as a proportion of overall prison population	No reported data	Not assessed

SDG	Targets	Tier 1 Indicators	Data Series	Source/Notes
	16.6 Develop effective, accountable and transparent institutions at all levels	16.6.1 Primary government expenditures as a proportion of original approved budget, by sector (or by budget codes or similar)	No reported data	Not assessed
	16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance	16.8.1 Proportion of members and voting rights of developing countries in international organisations		Not assessed as it is a collective responsibility
	16.9 By 2030, provide legal identity for all, including birth registration	16.9.1 Proportion of children under 5 years of age whose births have been registered with a civil authority, by age	No reported data	Not assessed
	16.a Strengthen relevant national institutions, including through international co-operation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime	16.a.1 Existence of independent national human rights institutions in compliance with the Paris Principles		Not assessed as it is a means of implementation

Appendix 2.2 – Relevant Goal 3 Tier 1 Indicators

SDG Indicator 3.1.2 Proportion of births attended by skilled health personnel

	1990	1991	1995	1999	2000	2001	2002	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	98.0														99.7	99.8	99.8	100.2	101.0	102.4
Kiribati					75.1											86.9	88.8	92.7	101.5	119.2
Nauru									97.4											
PNG	50.0							51.8				40.0	44.3	39.7	37.7	35.8	33.9	24.4	5.5	–32.7
Samoa		76.0									80.8					82.5	82.6	84.3	87.5	93.8
Solomon Is									85.5											
Tonga				96.0		95.0								97.9	98.0	98.3	98.6	99.7	102.1	106.7
Tuvalu	95.0						100.0		97.9	99.4	98.4	98.2	98.0	97.8	97.6	97.4	97.2	96.2	94.3	90.4
Vanuatu			79.0	88.0											89.4	90.8	90.3	91.2	93.1	96.8

Note: For Fiji, Kiribati and Tonga, linear progressions indicate skilled birth attendance over 100%, which is not realistic but does indicate that rates are expected to be close to 100% in 2030/2050. For PNG, the outlook is unlikely to fall that low but indicates that 2030/2050 levels are likely to be below actuals, which are already quite low.

SDG Indicator 3.2.1 Under-5 mortality rate

	1990	1991	1992	1996	1999	2000	2001	2002	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	27.8																17.9	17.5	17.0	14.9	10.6	2.0
Kiribati			101.0						69.0								52.9	49.7	47.4	36.8	15.2	−28.1
Nauru										48.0					22.7	17.6	12.6	7.5	2.5	−22.8	−73.4	−174.6
PNG				63.4			73.7			74.7	77.4	76.9	77.3	77.8	78.3	78.8	79.5	80.0	80.5	83.1	88.4	98.8
Samoa							22.8								19.4			20.0	19.2	19.5	19.5	19.5
Solomon Is					34.0								28.0	27.4	26.8	26.2	25.6	25.0	24.4	21.4	15.4	3.4
Tonga								15.0								23.0	23.8	24.6	25.4	29.4	37.4	53.4
Tuvalu		68.7				34.6								10.3	5.2	3.8	1.3	−1.3	−3.9	−16.8	−42.7	−94.5
Vanuatu								34.0								31.0	30.7	30.4	30.1	28.6	25.6	19.6

Note: Target is ≤25. For Fiji, Kiribati, Nauru, Solomon Islands and Tuvalu, linear projections result in negative rates, which are unrealistic but do indicate that rates are expected to reach the target.

SDG Indicator 3.2.2 Neonatal mortality rate

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	17.0	14.9	13.9	13.7	13.5	13.2	12.9	12.5	11.8	11.1	10.7	10.4	10.3	10.3	10.2	10.0	9.8	9.6	7.8	4.8	−1.1
Kiribati	36.1	32.5	28.9	28.2	27.5	26.9	26.5	26.2	26.0	26.0	26.0	25.9	25.7	25.3	24.9	24.6	24.1	23.7	20.8	17.3	9.2
Nauru	28.8	26.7	24.8	24.6	24.5	24.5	24.5	24.5	24.5	24.6	24.7	24.6	24.6	24.2	23.8	23.5	23.1	22.7	22.3	20.9	17.8
PNG	31.8	30.9	30.1	29.9	29.8	29.7	29.5	29.2	28.9	28.5	28.1	27.7	27.1	26.5	26.0	25.4	24.9	24.5	24.0	20.4	14.0
Samoa	16.7	14.0	11.7	11.4	11.1	10.8	10.6	10.5	10.4	10.3	10.2	10.2	10.2	10.1	10.0	9.9	9.7	9.5	7.7	6.0	1.8
Solomon Is	16.0	14.6	14.4	14.3	14.2	14.3	14.3	14.4	14.5	14.5	14.3	14.0	13.8	13.5	13.2	12.9	12.5	12.2	12.6	11.2	9.0
Tonga	10.1	8.5	7.6	7.4	7.3	7.2	7.1	7.1	7.1	7.1	7.1	7.1	7.2	7.3	7.3	7.2	7.1	6.9	6.3	5.8	4.5
Tuvalu	30.0	28.0	25.3	25.1	24.8	24.5	24.1	23.6	23.2	22.7	22.1	21.4	20.8	20.2	19.5	18.9	18.3	17.6	15.8	10.5	0.5
Vanuatu	16.3	13.6	12.2	12.0	11.9	11.8	11.9	12.0	12.0	12.1	12.1	12.1	12.1	12.1	12.1	12.0	11.8	11.6	10.9	10.3	8.7

Note: Target is ≤12. For Fiji, Kiribati (2050), Samoa, Tuvalu (2050), linear projections are unrealistically low but do indicate that rates are expected to reach the target.

SDG Indicator 3.3.2 TB Incidence Rate (TB incidence per 100,000 population)

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	84.0	67.0	53.0	51.0	48.0	45.0	43.0	43.0	42.0	43.0	44.0	45.0	47.0	50.0	53.0	57.0	67.0	40.9	41.1	41.0	31.5
Kiribati	116.0	505.0	372.0	332.0	342.0	393.0	448.0	488.0	514.0	447.0	442.0	361.0	366.0	432.0	429.0	497.0	497.0	502.9	444.2	488.8	540.5
Nauru*	8.1	4.0	4.6	3.5	5.8	6.4	6.6	13.0	14.0	7.2	5.7	6.9	6.8	5.8	5.4	7.2	7.5	7.6	9.4	9.5	13.2
PNG	371.0	385.0	418.0	423.0	425.0	427.0	427.0	426.0	424.0	421.0	418.0	416.0	415.0	415.0	416.0	417.0	417.0	434.5	436.5	443.5	466.4
Samoa	36.0	30.0	23.0	22.0	21.0	20.0	19.0	18.0	17.0	17.0	17.0	17.0	17.0	17.0	18.0	18.0	19.0	12.7	10.1	5.2	−7.4
Solomon Is	312.0	240.0	185.0	175.0	166.0	158.0	150.0	142.0	135.0	128.0	121.0	115.0	108.0	103.0	97.0	92.0	86.0	59.0	23.5	−55.3	−218.7
Tonga	36.0	37.0	31.0	30.0	29.0	27.0	26.0	24.0	23.0	21.0	19.0	18.0	17.0	16.0	15.0	14.0	14.0	12.6	5.2	−7.0	−32.1
Tuvalu*	48.0	40.0	34.0	32.0	31.0	30.0	29.0	28.0	27.0	23.0	21.0	23.0	18.0	15.0	24.0	23.0	19.0	15.2	9.7	−1.5	−24.7
Vanuatu	127.0	102.0	110.0	123.0	69.0	69.0	86.0	83.0	80.0	77.0	74.0	72.0	69.0	67.0	65.0	62.0	63.0	47.7	35.1	2.7	−62.9

*Number of incident tuberculosis cases, given total population <100,000

Note: For Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu, linear projections are unrealistically low but do indicate that TB incidence rates are expected to be low based on trend.

SDG Indicator 3.3.3 Malaria Incidence Rate (per 1,000 population)

	2000	2013	2014	2015	2020	2030	2050
PNG	261	178	172	165	133	70	–57
Solomon Is	461	75	45	16	–133	–430	–1,023
Vanuatu	124	31	24	17	–19	–91	–234

Note: For Solomon Islands and Vanuatu, linear projections are unrealistically low but do indicate that malaria incidence rates are expected to be low based on trend.

SDG Indicator 3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	2.4	1.8	2.1	1.9	1.9	1.8	1.6	2.0	2.1	2.1	2.0	2.3	2.3	2.2	2.1	2.1	2.0	2.0	1.8	1.7	1.5
Kiribati	0.4	0.7	0.5	0.6	0.5	0.5	0.5	0.6	0.8	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.2	0.0
Nauru			3.2	2.1	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.1	0.5	0.3	0.2	0.0	–0.1	–0.8	–2.2	–5.0
PNG	2.2	2.0	0.7	0.7	0.6	0.6	0.6	0.8	0.6	0.7	0.8	0.8	0.8	0.9	1.4	1.4	1.3	1.3	1.2	0.9	0.7
Samoa	2.3	2.4	3.0	3.4	3.3	4.2	3.6	3.6	3.5	3.9	4.0	2.9	3.0	2.2	3.6	3.7	3.8	3.8	4.1	4.8	5.8
Solomon Is	0.7	0.3	0.7	0.7	1.1	1.2	1.2	0.9	1.0	0.9	1.1	1.2	1.1	1.0	0.9	0.9	0.9	0.9	1.0	1.0	1.3
Tonga	0.8	1.0	1.2	1.4	1.5	1.8	1.8	1.6	1.8	2.1	1.1	1.1	1.2	1.0	1.6	1.7	1.7	1.8	2.0	2.4	3.1
Tuvalu	1.3	2.2	1.2	2.0	0.5	1.4	1.8	0.9	1.4	0.6	1.1	1.3	1.0	1.3	1.1	1.1	1.1	1.0	1.0	0.8	0.5
Vanuatu	1.5	1.5	1.2	0.9	1.2	1.2	0.9	0.9	1.0	1.0	1.2	0.8	0.9	0.9	0.3	0.2	0.1	0.1	–0.1	–0.7	–1.9

Note: For Nauru and Vanuatu, linear projections are unrealistically low but do indicate that alcohol use is expected to be low based on trend.

Appendix 2.3 – Relevant Goal 7 Tier 1 Indicators

SDG Indicator 7.1.1 Proportion of population with access to electricity

	1990	2000	2010	2012	2013	2014	2015	2020	2030	2050
Fiji	49	53	56	59	58	59	60	62	67	77
Kiribati	49	53	56	59	58	59	60	62	67	77
PNG	8	11	15	18	17	18	18	21	26	36
Samoa	80	89	100	100	102	103	103	108	117	136
Solomon Is	13	16	19	23	22	22	23	25	31	41
Tonga	80	86	92	96	95	96	97	101	109	124
Tuvalu	35	37	41	45	43	44	45	47	52	63
Vanuatu	18	19	24	27	26	27	27	30	36	47

Note: For Samoa and Tonga, linear projections result in unrealistically high access rates but do indicate that these countries should achieve universal access to electricity.

SDG Indicator 7.2.1 Renewable energy share in the total final energy consumption

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2015	2020	2030	2050
Fiji	13	11	13	11	9	9	9	13	14	18	11	12	15	16	20	26
Kiribati	1	7	5	6	2	1	1	3	3	4	3	3	1	0	–2	–5
PNG	66	63	62	60	58	59	58	56	56	54	54	53	49	44	35	16
Samoa	49	47	48	47	35	30	29	29	28	26	26	23	11	1	–22	–66
Solomon Is	87	82	82	81	80	80	79	68	68	67	67	67	57	48	28	–10
Tonga	2	3	2	2	2	2	2	2	2	2	1	1	1	–0	–1	–4
Vanuatu	69	69	71	52	67	68	73	44	47	40	39	34	21	0	–41	–121

Note: Except for Fiji and PNG, linear projections result in unrealistic numbers but do indicate a decline in the renewable share in final energy consumption.

Appendix 2.4 – Relevant Goal 8 Tier 1 Indicators

SDG Indicator 8.1.1 Annual growth rate of real GDP per capita

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	5.2	1.2	–2.3	1.6	3.0	0.9	5.1	0.3	1.2	–1.7	0.0	–2.4	2.0	–3.9	0.8	4.6	6.2	2.8	1.6	2.6	3.4
Kiribati	–0.1	–2.3	7.6	–1.0	–1.1	2.2	1.3	–2.1	–6.5	5.2	0.5	–2.8	–2.5	0.8	0.9	1.1	1.9	1.4	–1.0	–1.0	–3.1
PNG	–4.9	5.8	6.4	6.4	3.7	3.9	4.0	3.5	1.3	5.6	0.3	–5.5	–0.2	5.0	–0.4	–2.7	0.4	0.9	–0.9	–3.1	–7.1
Samoa		5.2	–16.6	–10.4	–5.3	3.8	2.3	2.8	4.4	4.8	4.7	–6.8	4.6	10.5	2.5	0.9	–0.5	1.2	3.9	6.0	11.4
Solomon Is	–5.4	–5.8	–5.0	–2.6	–2.6	–0.3	0.2	3.8	–0.2	4.6	4.1	3.7	5.3	8.2	5.8	3.3	6.3	3.2	7.9	11.9	20.5
Tonga	–2.3	3.5	2.8	3.0	2.8	1.5	0.1	0.9	–1.7	–5.2	1.8	0.5	3.6	1.6	0.2	–3.0	1.7	–0.6	–0.9	–2.0	–4.9
Tuvalu		–5.4	–1.4	1.1	7.2	–3.9	–1.9	–4.3	1.7	6.0	7.7	–4.6	–2.9	8.3	0.0	1.1	1.8	0.8	0.6	0.1	–0.5
Vanuatu	8.8	–1.4	3.8	–5.6	–7.4	1.7	1.3	2.7	5.8	2.6	3.9	0.9	–0.7	–1.1	–0.6	–0.3	0.0	0.6	0.5	–0.4	–0.2

Note: For Solomon Islands, linear projections result in unrealistically high growth rates but do indicate a positive trend in the right direction.

SDG Indicator 8.2.1 Annual growth rate of real GDP per employed person

	1992	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	2.7	–0.5	–2.8	–0.8	1.4	2.8	–0.3	–0.3	3.2	1.2	0.0	–2.6	–1.2	0.9	1.2	1.8	2.5	0.6	0.5	0.7	0.3
PNG	11.4	–6.5	–5.6	–3.1	–3.1	–0.7	0.1	0.8	–0.1	4.5	4.1	2.8	5.3	6.0	5.2	2.7	3.0	2.3	7.8	10.6	19.4
Solomon Is	7.8	4.0	–16.5	–10.9	–5.8	2.7	1.8	2.4	4.6	5.0	4.3	–6.7	5.1	7.5	2.9	0.5	–2.2	1.1	5.5	7.3	14.3

Note: For PNG and Solomon Islands, linear projections result in unrealistically high growth rates but do indicate a positive trend in the right direction.

SDG Indicator 8.5.2 Unemployment rate, by sex, age and persons with disabilities

	1991	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji	5.9	5.4	7.7	6.1	5.8	8.5	4.7	4.6	6.5	8.6	9.0	8.7	8.5	8.5	8.5	8.3	7.9	8.6	9.1	10.5	13.1
PNG	2.7	3.0	2.9	2.8	2.8	2.7	2.8	2.7	2.7	2.5	2.5	2.5	2.5	2.4	2.5	2.5	2.5	2.5	2.3	2.1	1.7
Solomon Is	4.0	4.0	4.7	4.4	4.2	3.9	3.8	3.6	3.8	3.8	3.7	4.1	3.7	3.6	3.8	3.8	3.9	3.8	3.5	3.3	2.8

Note: PNG and Solomon Islands record relatively low unemployment rates as majority of their rural based populations lead subsistence lifestyles, without the need or even interest in formal employment.

8.10.1 (i) Number of commercial bank branches per 100,000 adults

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji				9	10	11	11	12	11	11	11	10	11	12	12	12	14	17
Kiribati											6	6	6	6	5	5	3	0
PNG				2	2	2	2	2	2	2	2	2	2	2	3	2	3	4
Samoa	10	9		18	18	21	23	23	26	25	18	19	23	24	21	26	29	36
Solomon Is				7	8	8	8	8	8	4	4	4	4	4	4	0	−4	−14
Tonga				24	21	21	22	23	22	22	21	20	21	18	30	24	27	34
Vanuatu				20	19	19	21	20	20	21	21	22	22	23	21	24	27	33

8.10.1 (ii) Number of automated teller machines (ATMs) per 100,000 adults

	2001	2002	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2030	2050
Fiji			19	19	21	23	26	27	33	36	37	41	45	46	61	89	146
Kiribati										10	10	14	15	19	30	53	99
PNG			4	4	4	4	5	5	6	7	7	8	8	8	11	15	25
Samoa	11	12	12	12	12	17	19	21	25	28	28	35	42	41	57	90	154
Solomon Is			1	1	4	6	7	7	11	11	12	11	11	12	18	26	43
Tonga			23	22	19	19	30	29	28	28	27	27	27	28	31	37	47
Vanuatu			5	6	6	10	19	24	28	29	34	36	35	40	58	91	157

Chapter 3

Political Governance and the Quest for Human Development

Graham Hassall

3.1 Introduction[1]

Building effective state institutions and promoting national unity were among Pacific Island Forum Leaders' top priorities in the post-independence decades of the second half of the twentieth century. The twenty-first century, however, is presenting the challenges of a more globalised world: climate change is foremost among these, as well as the influences of global finance, global commerce and telecommunications, new geo-strategic alignments, and the rising expectations of ever-more educated, youthful and informed populations.

Other issues causing concern across the Pacific region include corruption in public life, the conduct of parliaments, under-representation of women in public life, resource exploitation that trades long-term environmental degradation for only short-term economic gain, and ongoing public-sector challenges in delivering basic public services. Pacific societies have some of the highest rates of non-communicable diseases (NCDs) for any part of the world, and the Human Development Index (HDI) for the Commonwealth Pacific small states (Fiji, Kiribati, Nauru, Papua New Guinea (PNG), Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) have deteriorated over the past decade rather than improved (only Fiji has risen in rank in the past five years – see Table 3.1).

This is the context in which leaders of the Pacific states seek, in the coming decades, to advance the well-being of their peoples. The tools at their disposal to accomplish this are the political and legal institutions introduced at the time of independence, as modified in light of experience. There are also many strategic and sectoral plans at national and regional levels; there are the Sustainable Development Goals (SDGs), agreed on by all countries at the United Nations, which provide a comprehensive set of targets to be achieved by 2030, and there are the resilient Pacific people, who live in some 90 cities and towns, 25,000 villages, and an unrecorded number of informal settlements scattered throughout the islands.

Whereas there is widespread agreement on the critical issues confronting political practices in the Pacific, there is less agreement on possible solutions. Looking ahead to 2050, there are three scenarios for the Commonwealth Pacific small states individually and possibly for the region as a whole. The first is one in which very few changes are made to the way countries are being governed, and future progress of these societies continues along the same pathways as at present. A second, bleaker, scenario foresees a deterioration in the quality of political governance, with consequent declines in

Table 3.1 Overview of Commonwealth Pacific small states

	Population (2015)[1]	Independence	United Nations Membership	HDI 2010[2]	HDI 2014[3]
Fiji	868,198	1970	1970	100	90
Kiribati	110,280	1979	1999	122	137
Nauru	11,006	1968	1999	n/a	n/a
PNG	7,476,504	1975	1975	153	158
Samoa	185,440	1962	1976	99	105
Solomon Is	624,667	1978	1978	142	156
Tonga	104,851	1970	1999	90	100
Tuvalu	11,445	1978	2000	n/a	n/a
Vanuatu	277,572	1980	1981	125	134

[1] http://www.spc.int/prism/population-mid-year-2010-projections
[2, 3] Human Development Reports (http://report.hdr.undp.org/)
Source: SPC, UNDP Human Development Reports

human security, and a hardening of the condition of people's lives. A third scenario, which is to be preferred, envisages transformations in political governance, which result in more rapid human development as a consequence of greater focus at both national and regional level on creating public value and delivering public goods.

This chapter reviews the key challenges that the Commonwealth Pacific small states currently face in the structure and operation of their governance institutions, and provides a range of options for action. The presumption is made that the primary goal of political governance is to identify a system of decision-making and resource allocation that results in advancement of individual and community well-being.

3.2 Context

3.2.1 Politics and governance

Politics generally refers to the manner in which state power is acquired and exercised. However, political activities only take place in order to secure desired outcomes, or 'ends'. Political governance, therefore, is concerned about how leaders use political, legal and other institutions of state to advance their society's growth and development. It expects, as Article 1 of the Commonwealth (Latimer House) Principles on the three branches of government makes clear, distinct yet complementary roles for the parliament, executive, and legislature, as

> *guarantors in their respective spheres of the rule of law, the promotion and protection of fundamental human rights and the entrenchment of good governance based on the highest standards of honesty, probity and accountability.*
>
> (Commonwealth Secretariat 2004)

Leaders are expected to maintain such constitutional principles by holding democratic elections at regular intervals, resolving disputes and reducing prospects for future conflict, fostering economic growth, promoting equity and justice, protecting

the vulnerable in society, and upholding fundamental rights and freedoms. Such good governance requires proper functioning of parliaments, courts, government departments and other agencies, and respecting the roles of media, civil society, academia, traditional leaders, and the private sector.

The populations of the Commonwealth Pacific small states, also classified as small island developing states (SIDS), range from approximately 11,000 (Nauru) to 7.5 million (PNG), and added together amount to some 11 million people (Table 3.1). These countries have been independent for time spans ranging between 37 years (Vanuatu, since 1980) and 55 years (Samoa, since 1962). All are members of the United Nations, with Tuvalu joining as recently as 2000.

The majority of the Commonwealth Pacific small states base their political and legal systems on Westminster[2]: members of parliament hold office as elected representatives of their constituents, who vote at intervals of three and in some cases up to five years; the parliament elects as prime minister the member of parliament (MP) whose party, or alliance of parties and MPs, commands the confidence of a majority in the house; and the prime minister heads a cabinet whose members act as the political heads of the government's various departments but all of whom remain answerable to parliament. Justice is provided by an independent judiciary.

This overview of Westminster, however, simplifies a much more complex situation, such as debate about the extent to which Westminster's approach to democracy has 'taken root' in Pacific cultures, and the extent to which it remains a 'foreign flower' (Larmour 2005). For example, Tonga maintains a constitutional monarchy (Table 3.2), and Samoa's chiefly system is integrated into the political system. Fiji has made several attempts to adapt Westminster to its multiracial society in a manner that is acceptable to all parties.

Table 3.2 Constitutional and electoral systems

	Constitutional system	Parliamentary seats	Parliamentary term	Electoral system	Women in Parliament[1]
Fiji	Parliamentary	50	4	List PR	8 (2014)
Kiribati	Hybrid	46	4	TRS	3 (2015)
Nauru	Hybrid	19	3	Modified BC	1 (2016)
PNG	Parliamentary	111	5	LPAV	3 (2012)
Samoa	Parliamentary	50	5	FPTP	5 (2016)
Solomon Is	Parliamentary	50	4	FPTP	1 (2014)
Tonga	Monarchy	26	4	FPTP	0 (2014)
Tuvalu	Parliamentary	15	4	FPTP	1 (2015)
Vanuatu	Parliamentary	52	4	SNTV	0 (2016)

[1]'Women in national parliaments', Inter-Parliamentary Union, http://www.ipu.org/wmn-e/classif.htm, accessed 5 October 2016

Note: List PR – proportional representation; TRS – two round system; Modified BC – Dowdall system (a modified Borda-count system); LPAV – limited preferential alternative vote; FPTP – First past the post (simple majority); SNTV – Single non-transferrable vote (for details see the ACE Electoral Knowledge Network, http://aceproject.org/).

Source: Inter-Parliamentary Union

The Commonwealth Pacific small states use a variety of electoral systems to choose their MPs (Table 3.2). Four rely on 'first past the post' (FPTP), in which the winner is simply the candidate who receives the highest number of votes. The other five countries use versions of the majority or proportionality systems. The distinction between these systems is that the highest number of votes obtained by the winner under a FPTP contest – particularly when there are multiple candidates – may amount to far less than 50 per cent, meaning that more voters in that electorate voted for other candidates than the winner. In preferential and proportional representation systems, voters mark multiple candidates, or parties, in order of preference. The winning candidate must obtain 51 per cent or more of votes, if not through first preferences then through adding those votes they obtained from voters' second preferences, and so on. Elections in Commonwealth Pacific small states are often observed by a Commonwealth Observer team.

Most Commonwealth Pacific parliaments continue to reflect their Westminster influences, although all are now unicameral (Fiji had an upper house prior to constitutional reform in 2013) (Levine and Roberts 2005). While a majority continue to recognise the British monarch as their own head of state, Vanuatu has opted for a president elected by an electoral college of National MPs and the Presidents of the Regional Councils, and Samoa for a head of state elected by the legislative assembly (*Fono*). In Kiribati, the president is both head of state and head of government.

The media is relatively free to operate in the Pacific region, although media freedom cannot be taken for granted. The World Press Freedom Index for 2016 ranked just two Pacific island countries: Papua New Guinea at 55 (below Niger, Haiti, and Argentina) and Fiji at 80 (just below Italy, Benin, and Guinea Bissau) (RSF 2016b). In the case of Fiji, the Index notes that violating the Media Industry Development Authority (MIDA) is punishable by up to two years in prison (RSF 2016a). In Papua New Guinea and Solomon Islands, political leaders have taken legal action in efforts to suppress information and viewpoints proliferating on blogsites and social media (Freedom House 2017). Across the region, the issue of political and business influence on mass media has been an ongoing concern (Papoutsaki and Harris 2008).

Much contemporary discussion of political governance in the Pacific focuses on the ability of political figures to obtain and retain executive power. Indeed, executive instability is often taken as an indicator of state failure (Rich, Hambly *et al.* 2006). In some countries, parliaments have sought to pass laws regulating party organisation and restraining the ability of their members to change allegiance midterm in an effort to create the stability needed by government to prosecute its political programme. However, the outcome has not been effective. For example, the Political Parties Integrity Bill passed in Solomon Islands in May 2014 was by June 2015 under review by the Sogovare Government on the basis that fundamental political behaviour had not improved. In the case of Papua New Guinea, Okole suggests that the Organic Law on the Integrity of PNG Political Parties and Candidates, legislated in 2001 and ruled unconstitutional in 2010, was only poorly implemented at best (Okole 2012).

Where party allegiances are weak and the desire to capture executive power is strong, the constant threat of no-confidence motions can paralyse a government. To

give one instance from Vanuatu, the government of Edward Natapei removed by a no-confidence motion by Sato Kilman in December 2010 had faced an additional six confidence votes in the previous two years – an environment hardly conducive to confident policy implementation. Although Vanuatu convened a 'dialogue on political reform'[3] in 2015 to learn from the experiences of Papua New Guinea and Solomon Islands, lasting solutions to the problem have not yet been found, and may lie elsewhere than in the financial and legal consolidation of political parties. There are questions as to whether constraining the alliances of members of parties is itself a democratic solution to this problem of democracy, and courts have so far found such measures to be unconstitutional. There are also questions about the relationship between the introduced system of government and traditional authority (Lawson 1997), and there are concerns about the effectiveness of political governance at sub-national level (Hassall and Tipu 2008 and Scott 2009). Most importantly, there are serious concerns about the lack of participation by women and youth in the political life of Pacific island countries (PIFS 2006). Underpinning all of these issues, plus many more, is a concern for the ability of current political structures to provide good governance, to steward resources with integrity and toward strong development outcomes, and to make progress with human development.

3.3 Key issues and challenges

3.3.1 National level

The range of challenges faced by the Commonwealth Pacific small states is immense: the legacy of race-based political representation in Fiji and the quest for 'post-coup (re)constitutionalism'; the resurgence of custom and revitalisation of cultural norms and 'traditional authority'; dilemmas concerning centralised versus more federalist systems in PNG and Solomon Islands; the form of constitutional monarchy in the face of pro-democracy sentiments in Tonga; the quest for constitutional accommodation and compromise in Bougainville[4]; and decisions concerning regional co-operation in the context of growing multilevel governance. Beyond matters of national constitutionalism is the issue of regional integration, and the extent to which the small states should now move toward deeper integration (such as within the Pacific Islands Forum[5]) to ensure enhanced regional co-operation and governance.

The 'goals of good governance' gained prominence through the 2001 World Summit on Sustainable Development's (WSSD) 'Johannesburg Declaration on Sustainable Development'. The WSSD Plan of Implementation for instance, stated that achieving sustainable development in small island developing states requires

> *sound environmental, social and economic policies, democratic institutions responsive to the needs of the people, the rule of law, anticorruption measures, gender equality and an enabling environment for investment*

domestically, plus a

> *dynamic and enabling international economic environment supportive of international cooperation, particularly in the areas of finance, technology transfer,*

> *debt and trade, and full and effective participation of developing countries in global decision-making.*

The report continues:

> *Good governance is essential for sustainable development. Sound economic policies, solid democratic institutions responsive to the needs of the people and improved infrastructure are the basis for sustained economic growth, poverty eradication, and employment creation. Freedom, peace and security, domestic stability, respect for human rights, including the right to development, and the rule of law, gender equality, market-oriented policies, and an overall commitment to just and democratic societies are also essential and mutually reinforcing.*
>
> (WSSD 2002, Plan of Implementation, Paragraph 20)

These values featured again in the 2004 vision for the Pacific Plan:

> *Leaders believe the Pacific region can, should and will be a region of peace, harmony, security and economic prosperity, so that all its people can lead free and worthwhile lives. We treasure the diversity of the Pacific and seek a future in which its cultures, traditions and religious beliefs are valued, honoured and developed. We seek a Pacific region that is respected for the quality of its governance, the sustainable management of its resources, the full observance of democratic values, and for its defence and promotion of human rights. We seek partnerships with our neighbours and beyond to develop our knowledge, to improve our communications and to ensure a sustainable economic existence for all.*
>
> (Chan 2004)

The UNDP's 2014 Human Development Report for the Pacific region asserts that:

> *poverty (hardship), vulnerability, inequality and exclusion are on the rise in many PICs, and that the most vulnerable people are likely to be women, youth, the disabled and the elderly, as well as those living in the outer islands and rural areas. Dealing with the challenge of reversing this rising tide of vulnerability and exclusion while also providing safety nets and social protection for those at risk will require Pacific governments to adopt new policy approaches and make some difficult choices.*
>
> (United Nations Development Programme 2014)

These are the challenges of societies in such rapid transition that governments are struggling to keep up. With the shift, for instance, from subsistence to cash economies, rural communities – both agrarian and coastal – are no longer meeting their food requirements, nor are they absorbing the next generation into traditional economic roles. Governments have been slow to adjust policy settings to the realities of this emerging Pacific; and this failure to address the needs of outer islands and remote provinces fuels both discontent and urban drift, inflates unemployment, increases food insecurity, provokes emigration – and in some places has the potential to threaten national cohesion. The fact that most Commonwealth Pacific small states have fallen down the HDI, rather than

risen up it, indicates that their governments are not delivering development that matters.

Stability in government should not be conflated with effectiveness, and the sign of an agile and responsive government may be institutional, legal and policy change, rather than stasis.[6] The cultivation, for instance, of local government capacity, and the decentralisation of service delivery and possibly other responsibilities, might be destabilising at first but empowering in the longer term. The adoption of more encompassing regional approaches to policy-making may also follow this trajectory.

For the low-lying countries, sea level rise is an existential threat which must be at the top of each government's agenda. Whereas mitigation is primarily the concern of the industrial economies of the North, adaptation is the concern for all Pacific Leaders, and implies much more than accessing global funds for disbursement to community groups. Adaptation implies active policy and programmes, for instance in agriculture, infrastructure, early warning systems and disaster preparedness, and much more (Lewis-Bynoe 2014).

Addressing poor health and education outcomes must also remain high on policy agendas at national and regional levels. Although these affect men and women alike, the goal of equal rights protection for women is crucial if they are to make their full contribution to the life of society.

Most recently, the challenges of governing have been set out in the Forum Leaders' *Framework for Pacific Regionalism* (PIFS 2015),[7] and in the *SIDS Action Platform*, a list of 18 policy imperatives generated at the Third International Conference on SIDS held in Apia, Samoa, in 2014.[8] These, in turn, are encompassed in the 17 SDGs that make up the *2030 Agenda For Sustainable Development* agreed at the UN in September 2015.[9] Whereas these declarations focus on policy challenges more than on institutional design, and the effective functioning of political institutions at the national level is presumed, both give considerable emphasis to the cultivation of multi-stakeholder partnerships.

In the context of these global and regional frameworks, the following key challenges of political governance facing the Commonwealth Pacific small states can be identified: (1) establishing stable and representative government; (2) strengthening distinct roles for the legislature and the executive; (3) strengthening the impartial role of the public sector; (4) cultivating information-based societies and evidence-based policy-making; and (5) developing multilevel governance so as to increase government capacity at regional, provincial and local levels, and in both urban and rural settings. All such issues, on the other hand, must be viewed in the Pacific context, where strong communities have always provided the foundation for collective action. Political institutions should be strengthened in ways that allow for collaboration with civil society rather than in place of it.

Establishing stable and representative institutions

The first stage in delivering good governance is the establishment of effective institutions – institutions which are both representative (i.e. accountable and

transparent) and effective (i.e. agile and responsive). The current institutions, and the allocation of rights and powers to the individual, the communication, and the state, were set out in the independence constitutions.

Constitutions and constitutional dialogue

Foremost among these institutions is parliament. In an age of 'executive dominance' it is easy to forget that the executive branch of government in the Westminster tradition receives its mandate from the people's representatives assembled in parliament. Prominent features of practice in parliaments of the Commonwealth Pacific small states are their under-resourcing (which results in lack of staff support, including for non-government MPs), lack of understanding of the scrutiny function of the House (particularly by parliamentary committees), which leads to lack of capacity to scrutinise bills and reports; the lack of strong party affiliations; and the lack of legislative activity by individual MPs (such as private members' bills).

Now that the Commonwealth Pacific small states are four to six decades post-independence, there is need for more, and more effective, deliberation, domestically, about the constitutional systems and their prospects for delivering improved governance. Constitutions are frameworks agreed by society concerning how political power is to be legitimated and distributed. To the extent that any facet of them proves ineffective, alternatives must be sought out and adopted. Constitutional dialogue can be scheduled periodically and need not only occur during crises, or as part of post-conflict peace-building. It has often been suggested that introduced political and legal institutions are not appropriate to the Pacific context and therefore do not provide an effective framework of incentives.[10] If this is the case and is contributing to poor governance results in some instances, the development of institutions that better reflect the existing hybrid or transitional status of the social organisation of Pacific states should be explored. Elsewhere, new scholarship is examining styles of parliamentary deliberation and decision-making (Steiner *et al.* 2004), and methods of 'dialogic communication' are being advocated in conflict resolution literature (Angeby 2005), and there have been, in fact, a number of calls for, or experiments with, 'governments of national unity' (as attempted by the Fiji 1997 Constitution) in the Pacific.

In some countries, a shift from a parliamentary to presidential system may be considered, or even a hybrid of the two systems, as has been accomplished in Kiribati. If there is going to be a significant shift in constituent behaviour, there has to be a tangible change to the base – access to good education, healthcare, roads, and infrastructure to facilitate trade and commerce – for without these basic features, choice of system of government may not be crucially important to voters. In the longer term, change to political governance in the Pacific is inevitable. External expectations about engagement with global economic and political institutions will expand. Are adversarial systems of decision-making the most suitable model for Pacific Parliaments? Are more deliberative and consociational models available?

In the post-independence period (i.e. from Samoan independence in 1962) constitutional exercises in the Commonwealth Pacific small states have ranged from

the commissioning of experts (Fiji), to parliamentary exercises (Nauru, Solomon Islands), and more broad-based constituent assemblies – such as in Kiribati. To an increasing extent, constitutional reform in Pacific states has been associated not merely with revision of political and legal review, but with the resolution of deep-seated conflict. Thus, constitutional reform in PNG (concerning Bougainville), Solomon Islands, Tonga, and even Fiji, has been an essential aspect of efforts to not only resolve entrenched political conflicts but to move into a post-conflict period of peace-building.

Political and constitutional reform has occurred quite slowly in Tonga, Solomon Islands, Fiji, Vanuatu, and elsewhere.[11] The only country to have proceeded with genuine constitutional experimentation is PNG – where a willingness to attempt constitutional innovation has been driven by acknowledged ineffective institutional design and consequent unsustainable social and political conflicts. This general reserve about renewing the design and operation of state institutions may contribute to a grass-roots perception in the region that constitutional systems and the institutions they establish for government remain 'foreign'. There is much discussion, for instance, about the operation of the Westminster model as transplanted in the Pacific but few alternatives have been explored. There is ongoing need, also, for consideration of the value that traditional leaders bring to contemporary governance. While those holding chiefly rank through descent or individual effort do not have the same roles as elected leaders, their contributions as custodians of traditional values, as advisors and conciliators, can be a unifying force in rapidly changing societies.

General elections

General elections have invariably been held in Commonwealth Pacific small states as scheduled, and electoral administrators are linked by an effective professional development network, (Pacific Islands, Australia and New Zealand Electoral Administrators – PIANZEA), with Commonwealth Pacific member states being members of the Commonwealth Electoral Network (CEN). The CEN and PIANZEA recently organised a regional event in Fiji for the heads of all the election management bodies in the Pacific.[12] Rates of participation in general elections are exceptionally high, with as many as 97 per cent of registered voters turning out to vote in Nauru in 2013, 90 per cent doing so in Solomon Islands in 2014, and 84 per cent in Fiji the same year.[13] The region has recorded very few instances of electoral fraud instigated by officials, although courts have ruled on illegal practices of candidates and constituents. This maintenance of effective electoral politics in Commonwealth Pacific small states has provided the constitutional legitimacy required by those who exercise public power. The quality of that leadership, on the other hand, the political legitimacy, is determined through the discernment of the electorate and by the capabilities of individual members in carrying out their multiple parliamentary responsibilities.

Choice of electoral system has been contentious in some countries, notably where race, ethnicity or status is a factor in politics. In Samoa, the independence Constitution (1962) restricted the right to vote as well as the right to contest to those holding chiefly (matai) rank. However, in 1990, the right to vote was expanded to

all citizens aged 21 and over. In Fiji, where the British brought indentured labourers from India to work the sugar fields during the colonial era, communal seats existed alongside open seats before and after independence, in a formula that guaranteed indigenous Fijians a parliamentary majority. One of the country's ongoing challenges is determining the balance between recognition of indigenous rights and acceptance of elected leadership on non-racial lines. Fiji has experienced four coups triggered by these questions – two in 1987, and others in 2000 and 2006 – and the 2013 constitution establishes an electoral system free of racial categories (Citizens Constitutional Forum 2013).

The strength of party affiliations

As noted, governance relates not only to institutions and processes of state, but to the manner in which the 'voices of the people' and interest groups are mediated, adjudicated and eventually translated into policies. Since independence, the main vehicle for interest group articulation has been the political party. However, although political parties attract much media and constituent attention, their formal processes are often surprisingly casual, and their ideological/policy platforms are often similarly fluid, making the decision by an MP to switch party allegiance more one of pragmatism than principle.[14] The continuity of parties in Samoa, Tonga and Fiji are the exception to this, although in the latter two instances at least, continuity is premised on race or class-defined political interests (such as access to land and various forms of state recognition and assistance) (Corbett 2015).

As stated by Fraenkel (2008, p. 44):

> *'Party politics', to the extent that it exists, is frequently viewed with disdain, and charged with aggravating social tensions that run counter to Pacific traditions of consensus and compromise. Fluidity of parliamentary alignments, and the readiness of MPs to 'cross the floor', ensure a frequent turnover of governments, particularly in western Melanesia but also in Nauru and Kiribati. The Pacific island states have consequently eminently passed Samuel Huntington's 'two turnover' test of democratic consolidation. Indeed, they have done so to such a degree that the primary concern is endemic instability rather than the absence of regime change…*

Fraenkel (2008, p. 48) points out that in the case of PNG:

> *More than half of all MPs lost their seats at most elections after independence, with incumbent turnover reaching an all-time high of 75 per cent at the 2002 polls.*

And that in the case of Samoa:

> *After independence, Samoa adopted a plurality-based system involving a mixture of single-member and block-voting two-member constituencies. The country initially witnessed high levels of MP turnover and no-party-based contests as in many parts of Melanesia.*
>
> (Fraenkel 2008, p. 55. See also International Aid Transparency Initiative (IATI) 2010)

Regarding Vanuatu, Morgan (2008) states:

> *no strategies have been able to counter the tendency for national elections to result in a high turnover of candidates. In the 2004 national elections, for example, 23 of the 52 Members of Parliament were not returned.*

Notwithstanding these cases, and given the high turnover rate of MPs in Parliaments, particularly in Melanesia,[15] MPs would prefer to sit with government than with opposition so as to have their talents used and potentially rewarded, rather than wasted on oppositional roles that offer few resources and minimal opportunities for engagement with legislation or grand policy. On this point Fraenkel (2013, p. 25) explains:

> *Absence of major ideological cleavages or political parties with a substantial extra-parliamentary membership can give Pacific parliamentarians considerable freedom for manoeuvre. Occupying a ministerial portfolio not only provides a salary and status that is often impossible for a local to equal in the private sector, it also provides access to state funds and state leverage over foreign controlled resource extractive industries. Particularly in Melanesia, MPs have been known to engage in spectacular changes in affinity as they cross the floor to join government, often justifying this by claiming – probably accurately – that they were not elected to parliament in order to remain in the opposition…*

Parliamentary support

Diversion of attention to the activities, platforms and personalities of political parties overshadows the role of parliament as the peoples' main instrument of democratic accountability. Nine Pacific Parliaments undertook 'Legislative Needs Assessments' (LNA) with UNDP assistance, and several subsequently entered into parliamentary strengthening projects (e.g. Solomon Islands, Samoa, PNG), or conducted induction programs for each new Parliament.[16] However, LNAs did not assess the skills or training needs of MPs, and were focused on the institution as a whole rather than the performance of individuals within the institutional setting of Parliament and constituency.[17] The low educational levels of MPs have on occasion prompted calls to restrict candidacy to those who hold tertiary qualifications, but the research of Corbett and Wood (2013) suggests, at least in the case of Solomon Islands, that the educational accomplishments of MPs have increased since independence, and are above the country's averages. The Commonwealth Parliamentary Association has assisted the Commonwealth Pacific Parliaments with induction programmes for new members, and for parliamentary staff.

For a long period most Pacific parliaments lacked office space and administrative resources for individual Members – a situation remedied in recent years in the Samoan and Solomon Islands contexts by the construction of new buildings in their parliamentary precincts, but an ongoing concern for Tonga and Tuvalu. As yet none of the parliaments in the Commonwealth Pacific small states provide MPs with email addresses, so that even those who have access to the internet are using private email addresses, which are not necessarily known to their constituents. This lack of access

to MPs via a constituency office or email creates a communications gap between MP and their constituents.

Parliamentary chambers also have barely sufficient seating for the interested public[18], although most ensure that parliamentary debates are broadcast, and that proceedings are transcribed. Part of the challenge is providing Pacific Parliaments with adequate funding. Most lack an independent funding allocation, and rely on the government of the day to release sufficient resources. These constraints on Parliamentary operations strengthen the hand of the executive, which chooses the timing of sessions, of the introduction of bills, and of the tabling and consideration of reports.

The number of members also has a bearing on the effective operation of Parliament. With growth in regional and international engagements, MPs are often required to represent their government, parliament, or party overseas, and such commitments can have an impact on parliamentary debates or committee work (extensive international travel by Ministers and MPs can draw public scrutiny and criticism, but so can failure to attend important meetings at which Pacific viewpoints, and votes, are necessary).

Effective committee systems

Whereas the public and media often focus on the theatrics of Parliamentary question time, much of any Parliament's substantive work occurs in its committees, which review bills, examine departmental reports, and conduct inquiries across all sectors (Hassall 2011). The Public Accounts Committee, in particular, plays an essential role in oversight of public expenditure (Rambe 2008). Such activities depend, however, not only on having sufficient legal powers, funding, and administrative support, but MP interest and capability. For a number of years the Public Accounts Committees of the i-Kiribati and Nauruan parliaments, for instance, were completely inactive, despite the availability of legal capacity (Pelizzo 2010). In Solomon Islands, parliamentary committees were strengthened under the Institutional Strengthening Programme provided by UNDP (*Solomon Star* 2015), but still lack adequate financing to conduct their work. The Samoan LNA was not alone in identifying a need for more parliamentary staff. Most MPs are members of one or more committees, and committee secretariats find it a challenge to co-ordinate committee schedules. However, there remains scope for creativity in the functioning of parliamentary committees. For instance, they can be empowered to co-opt specialists should a particular area of expertise not be represented in the parliament, as is allowed in the Standing Orders of the Tongan and Solomon Islands Parliaments. Organisations available to assist with the development of committee functioning include the Commonwealth Parliamentary Association, the Inter-Parliamentary Union, and UNDP.

Achieving gender equity

Although women hold traditional leadership positions in some Pacific island cultures, contemporary public life is predominantly patriarchal, and the lack of equitable representation of women in legislatures across the Pacific islands (Table 3.2) remains a serious challenge. The number of women in Pacific parliaments rose from 26 in 2013 to 34 in 2016, a proportion of 6.1 per cent of all seats, against the

global average of 22.6 per cent (PacWIP 2017). Vanuatu passed legislation in 2013 providing reserved seats for women in municipal, but not national, elections. Samoa's revised electoral law of 2013 ensures that a minimum of 10 per cent of all seats are held by women, by adding the 'next highest polling' women, should this number not be met through the initial vote (Baker 2014). Four women were elected to the current parliament in their own right, and a fifth was added via this 'special measure' (PACWIP 2017). Solomon Islands has legislation requiring parties to field female candidates, rather than mandating a quota in the parliament. The idea of temporary special measures was rejected in PNG (Baker 2014). Zetlin (2014) has examined cultural, economic and institutional explanations for the absence of women in Pacific parliaments before simply concluding that 'there are women ready to accept the challenge of political office'.

Advancing the status of women has been one of the region's most significant social policy challenges. In some cases the choices are difficult, particularly for those communities in which providing equal rights for women conflicts with traditional values. This changed value, however, should be seen in a broader perspective: it is only one of a great number of technical and social transformations experienced in the region in the last 50 years, and is advocated as a means of ensuring ever-greater social and economic progress. Through access to education and opportunity, Pacific women now occupy an impressive range of senior positions as Departmental Secretaries, Deputy Secretaries, and as members of the diplomatic corps, which would not have been the case before. There have been several regional and national initiatives, including by Pacific Islands Forum Leaders, to support the achievement of gender equality, including improving the representation of women in parliament.

Corruption

Corruption in public office is a major concern in the Pacific islands (Larmour 2005; Barcham 2007; Ayius and May 2007). Accordingly, it has been the focus of attention by regional organisations, development partners, and the Pacific Islands Forum Secretariat (Ivarature 2006). From 2001 to 2004, Transparency International commissioned National Integrity Systems Assessments for 14 Pacific island countries (TINZ 2016), which shed light on current practices as well as on the institutional reforms that can assist in minimising corrupt practices. Transparency International's Corruption Perception Index for 2011 ranked Samoa as the 'least corrupt' of the Pacific states (with a rank of 69th), followed by Vanuatu (77th), Tonga (95th), Solomon Islands (120th), and PNG (154th) (TINZ 2015). Although some have sought to argue for a different definition of corruption more relevant to Pacific cultures (where 'gift-giving' is an accepted practice), this argument has not been accepted by Pacific island courts, besides which, most Commonwealth Pacific small states participate in the Asian Development Bank (ADB)/ Organisation for Economic Co-operation and Development (OECD) Anti-Corruption initiative, and have signed the UN's Convention Against Corruption, which sets out clear and broadly applicable definitions (ADB and OECD 2006). The challenge of corruption, furthermore, goes beyond cultural definitions and practices: it requires capacity to prosecute, and strong public support for integrity in government (ADB and OECD 2016; Walton 2016).

Strengthening the distinct roles of the legislature, executive and judiciary

Strengthening the role of the legislature

In the past decade Pacific parliaments have met on average 30 to 60 days per year, in two to four meetings. For example, the Fiji Parliament averaged 51 sitting days per year between 1998 and 2006, notwithstanding the impact of the coup of May 2000, while the PNG parliament averaged 43 sitting days per year between 2003 and 2009 (Hassall 2012). When those holding executive power are dominant, parliament tends to serve as a rubber stamp for passage of necessary legislation, and approval of budgets and money supply. In Samoa, the executive's domination of parliament flows from the inability of non-government parties to meet legally defined thresholds for recognition as 'the opposition' (International Aid Transparency Initiative (IATI) 2010). In Vanuatu, executive dominance comes not from party strength but from its power to determine sitting dates (Hassall, 2007). In such cases additional parliamentary time is viewed as an unnecessary threat to the government's stability (since any break in political accords could result in tabling of no-confidence votes). Adherence to a minimal parliamentary calendar constrains the amount of parliamentary business that can be completed, and leaves little time for legislative reform, or for consideration of committee reports.[19] There is also the issue of patronage, as governments seek to bolster their hold on executive power by maximising the number of cabinet ministers, associate ministers, ministers without portfolio, and committee chairs.

Safeguarding judicial independence and integrity

Judicial independence has been a significant issue in the Pacific in recent years. In Fiji, judges departed or were removed following the 2006 military coup. In PNG, at a time of intense political conflict in 2012, criminal charges were brought against the Chief Justice, but later dismissed. In 2014, Nauru dismissed its chief magistrate and cancelled the visa of its Chief Justice. The Tongan government abolished its Judicial Service Commission in 2010 – although it was re-established in 2014.

In addition to the issue of judicial independence is that of judicial capacity, as numerous Pacific jurisdictions continue to rely on contracting expatriate judges to fill their benches, including in Fiji, Kiribati, Nauru, Solomon Islands, Tonga and Vanuatu. The Chief Justices in Cook Islands, Fiji, Kiribati, Nauru, Tonga and Tuvalu are expatriates. This continued reliance on technical assistance can be due to governments making insufficient resources available to fund judicial appointments, or to low levels of remuneration which make a judicial career unattractive, or because there are insufficient numbers of qualified candidates for judicial appointment.

Strengthening the impartial role of the public sector

Implicit in the Westminster framework is the idea that 'policy' addresses the public interest and the cultivation of public goods, rather than the narrower political interests of those in power. This complex mediation of political and public interests is at the heart of the minister-permanent secretary interface, and whereas the Westminster tradition developed ways to protect the bureaucrat's status as provider

of 'free and frank' advice to political leaders, such protections are not necessarily present in Commonwealth Pacific small states, leaving their public sectors vulnerable to clientelism and various forms of patronage (Duncan and Hassall 2010).

In Westminster systems of government, public servants answer to an executive (Prime Minister and Cabinet) elected by the legislature. Although the rule of law theoretically applies to all, those who make the law are sometimes the most difficult to restrain. Although cabinet manuals have been developed in many countries to clarify the respective roles, responsibilities, and privileges, of ministers and public servants, there still remain instances in Commonwealth Pacific small states in which restraining the political branch remains a challenge.

In Vanuatu, for instance, all Directors General were required to resign their posts in 2012 when the government implemented new legislation establishing 'performance-based' contracts for their positions. In other countries also, the importation of some elements of the 'New Public Management (NPM)' model which were intended to improve bureaucratic responsiveness to incentives, have had the unintended consequence of politicising the public service (O'Donnell and Turner 2005; Amosa 2008). While the merits of performance-based contracting are known, they also raise questions about the manner in which performance is assessed, by whom, and against what criteria. Failure to establish impartial means of performance assessment would render such senior public servants extremely vulnerable to the desires of their incumbent Minister.

A closely associated challenge is ensuring that public servants use their powers responsibly. In efforts to address this, in 2003, Pacific Leaders endorsed nine 'Forum Principles of Good Leadership' (Pacific Islands Forum Secretariat [n.d.]), which have received little attention but are worth revisiting:

1. Respect for Law and System of Government
2. Respect for Cultural Values, Customs and Traditions
3. Respect for Freedom of Religion
4. Respect for People on whose behalf Leaders Exercise Power
5. Respect for Members of the Public
6. Economy and Efficiency
7. Diligence
8. National Peace and Security
9. Respect for Office

The results of a baseline survey commissioned by the Pacific Islands Forum in 2008 (PIFS 2009) to check on compliance with these standards provides a detailed account of the extent to which these standards are being met. The report's summary conclusions were that changes of government in the region occurred peacefully (apart from Fiji, which had recently experienced a military coup), and that the great majority of court decisions in the region were complied with. The report noted, on

the other hand, a number of instances in which instructions given by the executive were not lawfully constructed, and quite a number of instances in which corruption had been detected but not successfully prosecuted. It was common across the region for offices of the Auditor-General and the Ombudsman to be insufficiently resourced to carry out their responsibilities. More concerning was the report's finding that the use of public resources for personal benefit was widespread, despite 'numerous instructions, strongly worded directives and circulars, and government gazettes being issued to rein in the abuse of government property, facilities and time.'

An additional set of standards, the 2003 'Forum Principles of Accountability' (PIFS 2000), developed with assistance from the International Monetary Fund (IMF) and of a more technical nature, provide the basis for a biennial stocktake of the implementation of leadership codes and principles of accountability presented to meetings of the Pacific Islands Forum Economic Ministers:

1. Budget processes, including multi-year frameworks, to ensure Parliament/Congress is sufficiently informed to understand the longer-term implications of appropriation decisions.
2. The accounts of governments, state-owned enterprises and statutory corporations to be promptly and fully audited.
3. Loan agreements or guarantees entered into by governments to be presented to Parliament/Congress.
4. All government and public sector contracts to be openly advertised, competitively awarded, administered and publicly reported.
5. Contravention of financial regulations to be promptly disciplined.
6. Public Accounts/Expenditure Committees of Parliament/Congress to be empowered to require disclosure.
7. Auditor-General and Ombudsman to be provided with adequate fiscal resources and independent reporting rights to Parliament/Congress.
8. Central bank with statutory responsibility for non-partisan monitoring and advice, and regular and independent publication of informative reports.

It can be noted here that the Pacific Islands Centre for Public Administration and the Commonwealth Ombudsman have entered into a memorandum of understanding (MoU) to develop administrative guidelines to improve accountability of public office holders, such as on conflicts of interest and good decision-making.

Defining relations between 'central government agencies'

The term 'central government agencies' refers to those agencies at the heart of government, whose decisions and actions affect the performance of all line agencies. The agencies regarded as 'central' differs across the Commonwealth Pacific small states. For instance, whereas the Departments of Prime Minister and Cabinet, Finance, and the Public Service Commission (PSC) are usually automatically included, some countries also include National Planning, or even the Police.

The legal and constitutional foundations of central agencies cannot be taken for granted. One may presume, for instance, that the Public Service Commission, on the basis of its title, stands independent of the executive branch, only to find that in reality it lacks administrative and financial autonomy. In countries that have both a Public Service Commission and a department of Personnel Management, or a Department of Public Services, the roles of and relationships between these bodies may benefit from clarification. Transparency in the method of appointment of central agency leadership is also important, since these positions at the head of the public service are in direct contact with the political leaders of the day. Methods of dismissal should be similarly transparent, so that reasons for head-of-agency turnover are easily understood by the public.

Because policy direction on all such issues is delegated by political leaders to government departments and agencies, cultivation of public-sector capacity is central to effective political governance of the Pacific states in the coming decades. Some sense of the current situation in the Commonwealth Pacific small states is found in summary statements by the Pacific Islands Centre for Public Administration,[20] and in the Forum Compact peer review assessments.[21] The Commonwealth Fund for Technical Co-operation has also assisted some of the Commonwealth Pacific small states. The ability of central government agencies individually and collectively to set and impose taxes; to collect other revenues; to forecast growth; to train, monitor and cultivate the public service; to deliver essential services either directly or through outsourcing; to co-ordinate international relations and obligations; to co-ordinate with subnational government bodies; to revise policy where necessary; and to monitor, evaluate and report on programme impacts – these are just some of the essential roles to be elaborated in the years ahead.

Central agencies in Commonwealth Pacific small states have noted the need for capacity-building, and numerous public-sector networks and projects are already engaged, including the ADB, Commonwealth Secretariat, Australia and New Zealand School of Government, Australian Aid, Australian Public Service Commission, Commonwealth Association for Public Administration and Management, UN Public Administration Network and other UN-related projects, plus the Suva-based Pacific Islands Centre for Public Administration. There are, additionally, a range of professional networks that have central agencies in scope, such as the Commonwealth Pacific Forum of Central Agencies, Pacific Public Service Commissioners Conference, Pacific Islands Law Officers' Network and other professional financial and auditing associations. While all such activities have their benefits, their effectiveness requires more evaluation, with reports more readily made available to the public.

Governing constituency development funds

The issue of executive dominance extends beyond the legislative chamber. In Solomon Islands and PNG, MPs are provided with discretion over 'electoral development funds'. Initially established to support MP visits to their constituencies and to allow for small grants for constituent-led projects, the scope of some constituency schemes has expanded substantially, such that MPs oversee resources

rivalling those available to line agencies. Barker (2016) reports that, in the case of PNG:

> *PNG Constituency Development Funds became the major project funding for the districts … The Districts, and services there, became increasingly neglected over the decades since Independence, but in recent years the allocations under Constituency grants have grown (firstly with the allocations to trust funds from 'windfall' high revenue in 2007–8) and more recently, until 2016, rising to K10 and then K15 million per District (regardless whether a district population is, say, 50,000 or 200,000 people).*

Such provision of significant funds to MPs creates a number of problems (Ketan 2007). The first is the risk of mismanagement or misappropriation, for which a number of MPs have faced prosecution. A second risk is the lack of coherent service delivery at the local level, as MPs implement projects without consultation with the appropriate line agencies. Most importantly, from the point of view of the adequate functioning of parliaments, MPs' preoccupation with capital projects diverts their attention from their responsibilities as legislators, and compromises their role in oversight of the executive branch of government. MP control of public funds also affects the mindset of voters, who focus on the tangible results the MP can bring to their locality (in the form of water tanks, roads etc.), rather than focusing on the development of the country as a whole, and it affects the morale of public servants, whose efforts (and resources) to plan systematically in a particular sector such as health, education, or agriculture, are affected by the often piecemeal approaches to distribution taken by MPs.

In PNG, District Service Improvement Programme (DSIP) funds are disbursed through the Department of Implementation and Rural Development (DIRD) (Ketan 2007). Although DIRD conducted a review of DISP expenditure in 2010, the results were never made public, reinforcing the public's perception – amid anecdotal evidence and media coverage – that the funds were not being used to effectively promote the public interest. An Auditor-General's Report (Auditor-General's Office of Papua New Guinea 2014) on the DSIP for 2012/2013 found that there had been 'limited value from the DSIP funds granted when measured against the original investment criteria', and there was 'pervasive breakdown in the DSIP governance framework across the Districts'. The report recommended substantial amendments to the framework for administering and governing its funding, improvements to the education and assistance for those administering it at the district level, better accountability, and application of penalties for non-compliance.

Although lack of transparency in disbursement of electoral funds is a widespread concern, there are also examples of good practice. In Solomon Islands, the late Fred Fono, former Deputy Prime Minister and Minister for Rural Development and Indigenous Affairs, during his term between 2007 and 2010, established a committee in his constituency to decide on the allocation of funds, and made the results of expenditure a matter of public record (Fono 2007). A former MP, Alfred Sasako, suggested 'online profiling' of MPs to improve transparency and accountability by monitoring the extent to which they deliver on the promises (Sasako 2012). In

Vanuatu, MPs are legally required to report to Parliament on their use of constituency funds but few do so in practice.

In Tonga, during parliamentary sessions between May and November, MPs visit their constituencies using four return airfares allocated to them in the Standing Orders – except for Ministers, who had separate entitlements with their portfolios, and Tongatapu members, who have the Legislature on their island. MPs are accompanied on constituency visits by legislative staff who talk about the role of parliament and how the public can participate in lawmaking through parliamentary committee processes. Notwithstanding such travel facility, there is widespread concern about MPs promising help to their constituencies but having little ability to initiate action. A case in point was MPs' response to the 2009 Tsunami, which hit the Tongan island of Niuatoputapu and destroyed no fewer than 79 houses. Despite appeals from these affected homeowners, government was slow to provide assistance and initial MP responses were of little practical value. MPs are one-part Ombudsman and must learn to direct constituent concerns to the relevant government department rather than try to solve them directly.

Improving the quality of public policy

Political leadership exists not for its own sake but to set the direction for public policy and its implementation within a country. Policy processes in Commonwealth Pacific small states tend to include extensive involvement by donors, consultants and development partners, and while all such contributions have played their part, political and public-sector leaders must carry responsibility for ownership of policy through to effective implementation, not only within individual sectors, but from a 'whole-of-government' perspective and in the direction of medium- and long-term plans.

The ways in which public policy processes can be improved, identified at the 4th Commonwealth Pacific Forum of Central Government Agencies held in Samoa in 2015, included:

- Enhanced analytical capacity at each stage of the policy cycle, but particularly in the identification of policy priorities, the design of policies and the monitoring and evaluation of policy implementation.
- Improved quality of data collection processes.
- Improved procedures for ensuring that policy evaluations inform future policy design (Commonwealth Secretariat 2015).

Samoa, for example, has focused on a range of institutional strengthening programmes in an effort to boost public-sector performance, and in 2012, introduced a Public Service Day to acknowledge the significance of public servants and to present awards for public service excellence.

Of course, policy must pursue clear purposes and direction. To this end, the majority of Commonwealth Pacific small states have in place national development plans, including long-term strategies, such as Papua New Guinea's Vision 2050, which was launched in 2009. Nauru has in place a National Sustainable Development Strategy

2005–2025, Solomon Islands has a National Development Strategy 2011–2020, and Vanuatu has its National Sustainable Development Plan for 2016–2030, while Tonga released its Strategic Development Framework 2015–2025. Fiji, Kiribati and Samoa have in place medium-term national development plans. However, some countries have a better record at implementing their plans than do others.

Responding to the Sustainable Development Goals

There are important challenges for governments in each of the 17 Sustainable Development Goals. Goal 16 (see Box 3.1), in particular, challenges governments to ensure that their policies and programmes, and the institutions that oversee their implementation, reach new levels of performance. Although many governments will no doubt claim that they are already doing their utmost to produce outcomes that are fair to all, the articulation of targets for this goal will require greater attention to standard setting, and to close monitoring of performance and results. Each government needs to have an appropriate oversight mechanism for the SDGs, built on existing platforms that were constructed to respond to the Millennium Development Goals, preferably using a 'whole-of-government' approach rather than one that assigns this task to an individual unit within one or other Ministry or Department. The SDGs create an opportunity for governance to improve at all levels.

Cultivating information-based societies and evidence-based policy-making

E-government

Building up telecommunications will play a major role in the future of governance. The emergence of e-government has changed the ways in which governments regard and handle data. Prior to the connectivity that is now provided by the internet, government departments maintained paper-based records, or – where records were computerised – developed standalone information systems. Information and communication technologies have revolutionised not only information processing, but expectations about its use within government, and with citizens and other stakeholders. Successful deployment of the new technologies requires infrastructure, financing, legislation, law reform, and training – all of which require leadership and co-ordination. Political governance thus now embraces the practices of e-government, e-public service, and e-democracy (Lee 2014, p.16). these new tools increase the potential for policy setting to be evidence-based, and for the impact of policy to be evaluated in ways that lead to further improvement (Cullen and Hassall 2017).

Access to information/freedom of information

Although the internet has facilitated the spread of information about public affairs in Commonwealth Pacific small states, governments have been slow to legislate for access to information and freedom of information. To some extent this is a legacy of colonial-era law in Commonwealth jurisdictions by which public servants had to abide by Official Information Acts. However, as development partners including UNDP have pointed out in workshops with Pacific island officials, freedom of information promotes democratic governance, facilitates public-sector efficiency, supports decentralisation, supports participatory development, fosters economic

Box 3.1 Sustainable Development Goal 16

Goal

'Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels'

Targets

16.1 Significantly reduce all forms of violence and related death rates everywhere

16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children

16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all

16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime

16.5 Substantially reduce corruption and bribery in all their forms

16.6 Develop effective, accountable and transparent institutions at all levels

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels

16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance

16.9 By 2030, provide legal identity for all, including birth registration

16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements

16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime

16.b Promote and enforce non-discriminatory laws and policies for sustainable development

Source: United Nations 2030 Agenda for Sustainable Development

development, exposes corruption, and improves media reporting (Rodrigues and Valemei 2008). Access to accurate data allows for learning and for realistic planning, and generates trust. Where official information is not freely available, social media has become the public's dominant source of information about government activity. Pacific societies are educated enough but are not able to make their voice heard. There

is a need for more initiatives aimed at civil education that encourage discussion of the notion of the politically responsible citizen, and which normalise the idea of being part of the debate, of being an active citizen, and of challenging the ideas of 'big men'.

Press freedom

In looking at political communication in the Pacific island context, unique cultural characteristics must be borne in mind. Although mass media (radio, television and newspapers) are vital means of communication, they are not uniformly available across the Pacific,[22] and traditional patterns remain important. In Vanuatu, for instance, much discussion takes place informally in the 'kava bar' during late afternoon and indeed each Pacific society has its traditional site of dialogue and debate, where sensitive views or pieces of information are traded in a social context. According to a report on Vanuatu's media in 2013 (Tacchi *et al.* 2013):

> *Freedom of expression is guaranteed in the constitution, but there is no specific protection for freedom of media. Threats against journalists by government officials are fairly common in Vanuatu. Journalists in the public broadcaster practice self-censorship to avoid confrontation with government. However, while they don't usually investigate corruption or sensitive government stories, they will report the findings of investigative stories run by commercial news outlets. A National Media Policy and a Freedom of Information policy and legislation are currently being developed by Transparency International Vanuatu, the Media Association of Vanuatu and other stakeholders, with support from United National Development Programme (UNDP) to address this situation.*

In Fiji, media restrictions in place from the time of the December 2006 coup have been gradually removed, with bans on specific foreign reporters entering the country lifted in October 2016. Although official censorship ended in 2012, with the lifting of the 2009 Public Emergency Regulations, and a new constitution promulgated in 2013, a new institution, the Media Industry Development Authority (MIDA), was established in 2010 with power to impose penalties on media items deemed to be against the 'public interest or public order'.

Leaders in a number of countries have expressed concerns about how social media is being used, as unmediated websites also carry 'mudslinging', and many unsubstantiated statements, allegations, and refutations. In PNG, in 2012, bloggers were accused by police of breaking the law by criticising government – although of course no charges were laid as no laws had been broken. During considerable political instability in 2011–12, bloggers shared information on Facebook and Twitter, but such reports got no traction until they were picked up by a trusted source and fact-checked. There was thus an element of self-moderation or correction, with others responding on such sites as *Yume Toktok Stret* and *Sharp Talk* to correct misinformation. In the Solomon Islands, government has expressed concern over the content of such blogsites as Forum Solomon Islands International, whose administrators are seeking to raise public awareness of policy issues in lawful ways.

In 2015 and 2016, the Government of Nauru was accused of denying access to foreign journalists seeking entry to the country to report on asylum seekers, and of

restricting access to the internet within the country. A 2015 report (Ewart 2015) from Kiribati suggests that the editor of radio Kiribati was dismissed for a report on the introduction of the death penalty.

In reviewing the status of media freedom in the Pacific in 2011, Perottet and Robie found that formal censorship only existed in Fiji (as noted above), and laws covering libel only existed in Fiji and Samoa. This same survey found, however, that none of the Commonwealth Pacific small states as yet had freedom of information legislation (Perottet and Robie 2011, p. 154).

National monitoring capability

Basing policy decisions on accurate data is becoming increasingly important for governments. However, whereas new technologies are making data capture ever easier, decisions as to what data to capture, using what technologies, by which agencies, and for what purposes, remain a challenge. Obviously, primary data about population, income, and expenditure (particularly public-sector expenditure), are at the heart of data collection, but monitoring now needs to also cover the environment, the economy, agriculture, health, education, security, tourism, land ownership and land use, and myriad other sectors. The ability of Commonwealth Pacific small states to collect and report official statistics in these diverse fields is improving, but remains a challenge.

Despite the presence of a Bureau of Statistics in most Commonwealth Pacific small states, and support for statistical capacity provided by the Secretariat of the Pacific Community (SPC),[23] several Commonwealth Pacific small states remained unable to systemically report data for the eight Millennium Development Goals. On the other hand, monitoring capability improved through activities under the 2009 Cairns Forum Compact on Strengthening Development Co-ordination, which in turn was a response to the 2005 Paris Declaration on Aid Effectiveness. However, if efforts to improve national monitoring capability are not scaled up, the Commonwealth Pacific small states will face similar challenges in monitoring progress of the 17 Sustainable Development Goals.

In addition to government-led monitoring of development outcomes at the national level, regional and global agencies produce a host of ad hoc or periodically produced indices of: climate and environment, e-government readiness, human development, labour, peace and stability, and all aspects of health. Performance is constantly measured by the ADB, the IMF and the World Bank, among others. Civil society organisations, including the Pacific Islands Association of NGOs (PIANGO), the Pacific Conference of Churches, Caritas and Oxfam, regularly publish reports on critical policy issues, and universities outside the Commonwealth Pacific small states have programmes focused on Pacific islands, including the Australian National University, Auckland University, the University of Canterbury, and the Victoria University of Wellington. There are even European Societies focused on Pacific island studies (Holtz, Kowasch *et al.* 2015).

Public opinion can also serve as a gauge in monitoring development outcomes, but it is difficult to gauge 'public opinion' in Pacific island societies. In addition to the

uneven distribution of mass media, and the diverse geographic and social disposition, is the fact that few surveys are conducted on a systematic basis. In Solomon Islands, the Regional Assistance Mission in the Solomon Islands (RAMSI) conducted several surveys to assess the public response to its presence in the country and its efforts in post-conflict rehabilitation and (Anu Enterprises 2007), in 2016, the Public Service Commission produced a survey of public perceptions of government performance. In Fiji, Tebutt polls are produced, and an opinion poll conducted by the Lowy Institute in 2011 received considerable media attention and scrutiny.[24] In Tonga, a polling exercise was criticised by some MPs who it did not depict favourably, but was used by other candidates and campaign managers to assist their electoral strategies.

Civil society

Civil society has a role to play in promoting accountability, freedom of expression, and improved government performance. Although the idea and practice of civil society is consolidating across the Pacific, it remains too weak in some places to have significant impact on the policy choices of political leaders. It only exists, for instance, in urban areas, and is quite reliant on social media to convey its messages. There is a need to put incentives in place to have leaders act in the national interest and not restrict their actions to matters of local interest. There is also, in many places, a real desire to shift relationships away from patronage politics. Candidates do not want to continue spending their personal savings on campaign costs, and MPs do not appreciate being petitioned by constituents on an almost daily basis for cash support. There are instances of MPs providing essential services from their private funds for fear of losing electoral support; unfortunately, if such forms of patronage politics become more common, electoral contests may become possible only for the wealthiest in society, in contrast to the egalitarian ethos embedded in democratic ideals and theory. For these reasons and others, civil society has an essential role to play as an advocate for democracy, and as a watchdog against patronage politics.

Developing government capacity at provincial and local levels, in both urban and rural settings

Although national-level institutions have been the focus of development assistance, maturation of political institutions at subnational level is equally important. In addition, while 50 per cent of the Pacific's total population is regarded as 'urban', this figure is only 13 per cent in the case of PNG. Therefore, as urbanisation increases and demand for urban infrastructure grows, the quality of local governance becomes all the more crucial, and as Table 3.3 shows, the numbers of both urban and rural local authorities, some elected and others appointed by traditional means, are substantial, and growing. In addition to approximately 25,000 villages spread across the nine Commonwealth Pacific small states, there are approximately 7,000 elected and appointed local government councillors (including around 6,000 in PNG) (CLGF [n.d.]). All of these staff require some training, as these local government bodies take on more responsibility for service provision, and for some level of financial administration. Local government throughout the Pacific is at present significantly

Table 3.3 Subnational institutions

	Villages	Rural local authorities	Urban local authorities	Provinces or Island councils	Towns	Cities
Fiji	2,100	17		14	11	2
Kiribati	181	n/a		23	3	0
Nauru	n/a	n/a	14	n/a		0
PNG	15,824	317	31	22	63	3
Samoa	330	n/a		n/a	0	0
Solomon Is	4,484			9	12	1
Tonga	170				0	0
Tuvalu	17			8	0	0
Vanuatu	1,751		3	6	2	0

Source: CLGF 2015[25]

underfunded and the fiscal aspects of intergovernmental relations will have to be examined.

While urbanisation has increasingly affected village life from the mid-twentieth century, approximately 50 per cent of Pacific islanders continue to live in villages rather than towns. The 'village' has traditionally constituted the basic unit of social and economic life in Pacific island societies. Yet in some Commonwealth Pacific small states, the validity of the institution is contested, on the premise that the 'village' is merely a traditional social unit – or in some cases an institution devised during the colonial era as an administrative convenience. The rapid rate of migration from rural to urban areas and from villages to urban settlements requires close consideration of what Pacific villages are experiencing at present and are likely to experience in future years. Media reports suggest serious intergenerational issues, with a younger generation no longer recognising the traditions, laws and norms of an older generation, or the leaders who seek their enforcement. There are issues of land use, livelihoods, and access to markets.

In addition, the idea that villages are 'traditional' and cities and towns 'modern' needs to be removed, so that the benefits of local government can reach both urban and rural populations. Urban authorities currently have disproportionate access to government services, although both urban and rural populations require local government. An important aspect of overcoming disparities in the government of urban and rural areas will be clearer articulation of the roles of traditional leaders, who for the most part operate in parallel to local government authorities. It is important to find models for the village of the future, and to identify ways in which people can remain in their village, should they wish, and to still make a decent living or make return visits to the village without permanently residing in squatter settlements or in peri-urban areas.

Much recent scholarship and policy articulation has focused on the important issue of urbanisation, and on the development of national systems of government.[26] UN Habitat, for instance, has undertaken a project 'Managing the Transition from the Village to the City in the South Pacific'. In addition, the challenges of local governance have been examined at a series of Pacific Urban Forums convened since 2003 by a

consortium including UN Habitat, the Commonwealth Local Government Forum's Pacific Project, the ADB and others, together with buy-in from national departments responsible for local government. Since 2003, five countries have developed urbanisation policies (PNG, Samoa, Fiji, Tonga and Solomon Islands) covering such challenges as population and employment; housing, informal settlements and social issues; governance and institutions; environment and climate change; rural—urban linkages, transport and infrastructure; land availability; security, law and order; and gender and HIV/AIDS.[27]

However, the implications of the distinction between urban and rural constituency deserve fuller consideration. Although all communities at local level desire the same services – such as clean water, health and education services, roads and other infrastructure – the condition of these services often differs dramatically depending on whether the context is rural or urban, and whether it is regulated by modern law or by custom. By definition, the village is generally under customary leadership, and not formally regulated.[28]

There is a role for local government in advancing human rights and for promoting equal rights for women. Whether established constitutionally or through legislation, local authorities have the same responsibilities as do national authorities for guaranteeing, at local level, freedom of speech and the elimination of all gender-based discrimination.

3.3.2 Regional level

Locating sovereignty

In an era of globalisation, the notion of what it is to be an 'independent' or 'dependant' state or nation has changed. The issue is no longer that of 'independent' versus 'dependent' status so much as the degree of self-determination exercised when making the choice. There are growing expectations, too, of participation by citizens in the spaces created for and by 'civil society', and thus there is a need to explore what changes, if any, this expanded role may make to traditional institutions and procedures of government.

The Morauta Report referred to a 'substantial pooling of sovereignty' (Pacific Plan Review 2013, p.14), and the subsequent the Framework for Pacific Regionalism states that potential regional initiatives 'should maintain the degree of effective sovereignty held by national governments (countries, not regional bodies, should decide priorities)' (Pacific Islands Forum 2015, p. 10). This use of the expression 'degree of effective sovereignty' – presuming it has been chosen deliberately – creates the opportunity for discussion of more nuanced approaches to the allocation and use of sovereign power by small states. The notion that nations have 'full sovereignty' in the sense of total control over their destinies, has given way in the modern era to international treaties and development assistance – and particularly in the context of small states whose economies are unable to provide all the infrastructure, goods and services required by their citizens – to more realistic expectations (Mendez and Germann 2016).

Table 3.4 Key actors and programmes in the Pacific

	Government/intergovernmental Agencies	Civil society	Programmes
GLOBAL	UN and its Agencies (UNDP, WHO, FAO, UNFPA, UN Habitat, UN Women, UNICEF, etc.), World Trade Organization, World Bank and IMF (Pacific Regional Infrastructure Facility, Pacific Financial Action Task Force), European Union (African, Caribbean and Pacific)	Amnesty International, Greenpeace, World Social Forum, Transparency International, Oxfam, Faith-Based Organisations, International Union for Conservation of Nature and Natural Resources, Commonwealth Local Government Forum	SDGs, Samoa Pathway, Paris Principles, Treaties, Paris Agreement, Human Rights, Poverty Reduction Strategy Papers
ASIA-PACIFIC	ADB, Economic and Social Commission for Asia and the Pacific, Australia Ministry of Foreign Affairs and Trade, New Zealand Department Foreign Affairs and Trade		Country programmes
PACIFIC REGIONAL CROP Agencies	Pacific Islands Forum Secretariat, Secretariat of the Pacific Community, University of the South Pacific, Pacific Islands Development Programme, South Pacific Tourism Organization, Pacific Power Association, Pacific Islands Forum Fisheries Association, Secretariat of the Pacific Regional Environment Programme	PIANGO, Faith-Based Organisations, Pacific Network on Globalisation	Framework for Pacific Regionalism, Regional Sector Plans, Working Groups
PACIFIC REGIONAL Other	PASO, Pacific Islands Law Officers Network, PIPSO, Commonwealth Pacific Forum of Central Agencies, Pacific Public Service Commissioners Conference, Parties to the Nauru Agreement, PASAI		Country programmes
NATIONAL Sovereign states	Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Palau, PNG, Samoa, Solomon Islands, Tonga, Vanuatu	National Peak Civil Society bodies	National Development Strategies, National Sector Plans
NATIONAL Non-sovereign states	American Samoa, Cook Islands, French Polynesia, Guam, New Caledonia, Niue, Northern Mariana Islands, Tokelau, Timor-Leste, Wallis & Futuna	Peak Civil Society bodies	National Development Strategies, National Sector Plans
SUBNATIONAL	Cities, towns, provincial governments, villages, settlements	Local NGOs	Pacific Urban Agenda

Source: Author's compilation

Regional governance

Political governance at the regional level is defined as the establishment and operation of supranational entities for the collective benefit of the participating states and peoples. Regional co-operation in the Pacific commenced after World War II with the establishment of such bodies as the South Pacific Commission. Since the formation of the Pacific Islands Forum in 1971, and the gradual coalescence of intergovernmental agencies into the Council of Regional Organisations of the Pacific (CROP), the region has become one of multilevel governance, multiple-stakeholders, abundant regional, national and sectoral plans, and significant monitoring and evaluation by national governments, international development partners and agencies. This complex field of state and non-state global, regional and subregional actors seeking to influence governance in the Pacific islands is depicted in Table 3.4.

Whereas the state and non-state actors identified in Table 3.4 have developed working relationships among themselves, these relations are fluid rather than permanent, and organisations themselves are subject to change. For example, in 2013, Fiji sponsored the establishment of the Pacific Islands Development Forum, an initiative that raises the possibility that additional organisations will continue to emerge in the future, and opening, also, questions about the method by which the regional architecture is legitimated (Tavola 2015).

Nevertheless, concepts of Pacific regionalism and subregionalism are surprisingly long-standing.[29] Significantly, in 2004, Forum Leaders set out the following vision for the region (Pacific Plan Review 2013):

> *Leaders believe the Pacific region can, should and will be a region of peace, harmony, security and economic prosperity, so that all its people can lead free and worthwhile lives. We treasure the diversity of the Pacific and seek a future in which its cultures, traditions and religious beliefs are valued, honoured and developed. We seek a Pacific region that is respected for the quality of its governance, the sustainable management of its resources, the full observance of democratic values, and for its defence and promotion of human rights. We seek partnerships with our neighbours and beyond to develop our knowledge, to improve our communications and to ensure a sustainable economic existence for all.*

Forum Leaders gave effect to this vision through the Pacific Plan for Strengthening Regional Cooperation and Integration which was endorsed in 2005. After almost ten years of implementation of the Plan and rather muted results, the Pacific Plan was reviewed by a team led by former PNG Prime Minister Sir Mekere Morauta in 2013. In their report, over 36 recommendations were made envisioning 'a bigger, better, deeper process of regionalism', which require acknowledgement of 'difficult issues such as sharing sovereignty and the recognition of regional priorities that may not always equate to national priorities'.[30]

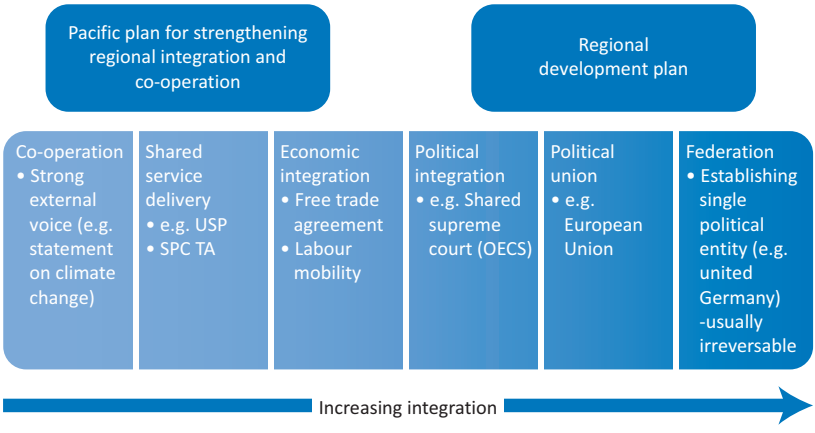
The key point made by the Morauta Report (Pacific Plan Review 2013) is that Pacific regionalism has mostly comprised co-operation, which is much less than shared governance. This point was also made by the ADB in 2005 at the time of the launch of the Pacific Plan, where the ADB argued that in the Pacific context: 'regional

co-operation is insufficient to cope with many of the region's challenges – despite this being a preferred method of regionalism in the Forum', and that 'given the Pacific's unique characteristics, only by moving to "deeper" forms of regionalism – increased regional provision of services and regional market integration – will the Forum create the necessary pool of benefits needed to make regional institutions sustainable and beneficial to its members.'

There is also evidence to suggest this. For example, a recent study for the Forum Economic Ministers' Meeting listed 55 networks convened periodically by the Forum, its Committees and Working Groups, other CROP agencies, and Forum dialogue partners (Pacific Consultant Group 2014). Whereas the challenges of co-ordinating so many meetings, preparatory papers, draft resolutions and outcome statements is familiar to those close to regional processes in the Pacific, information sharing and establishing non-binding consensus positions is at the soft end of regionalism. Decisions to compact overlapping meetings can improve efficiency but do not constitute a model of subsidiarity. In addition, Pacific Islands Forum countries have worked together to ensure regional security through the Biketawa Declaration, which was agreed to at the 31st Summit of Pacific Islands Forum Leaders in October 2000, following the coup in Fiji and ethnic tension in the Solomon Islands in that year. But this Declaration establishing a framework for co-ordinating response to regional crises, which was subsequently used to assist Solomon Islands (since 2003), Nauru (2004–2009) and Tonga (2006), amounts to less than a security treaty and requires an invitation from the country at risk. It does not secure the interests of the Pacific states whether individually or collectively should the concerned parties not co-operate.

To address the challenges to shared governance, the Morauta Report proposed a 'Path for Pacific Integration', commencing with co-operation, then stages of shared service delivery, economic integration, political integration, and ultimately political union and federation (Figure 3.1). Consideration of such a path – or

Figure 3.1 2013 Pacific Plan Review - Path for Pacific Integration



Source: Pacific Plan Review 2013

at a minimum, of the creation of a political space for leaders to identify and pursue collective action – requires close political, constitutional, economic and social consideration, as well as agreement on the decision process and timelines. The report was careful to note that the path had not yet been consented to by the Pacific Islands Forum members, but strongly suggested that remaining at the co-operation stage was an inadequate response to the region's longer-term needs.

Following consideration of the Morauta Report, in 2014, the Pacific Islands Forum Leaders endorsed a new Framework for Pacific Regionalism to achieve their vision set out in 2004. Within this Framework, they endorsed a Specialist Sub-Committee on Regionalism to identify and assess 'priority initiatives to advance Pacific regionalism', alongside the advice of regional meetings and Pacific member states, on priorities to advance Pacific regionalism. However, the Morauta Report stressed the need for faster consideration of options for Pacific regionalism. There is also a need to agree on timelines for decision, without which political dialogue will draft, public interest will wane, and the potential for cleavage will emerge. Therefore, the success of the Framework for Pacific Regionalism process will very much depend on how Pacific countries address five broader issues concerning the future regional architecture: (1) sovereignty; (2) regional governance; (3) pooled services; (4) funding; and (5) accountability.

What is missing from this discussion are clear statements from individual Pacific island countries outlining what they do and do not want from regional co-operation.

Although the countries and territories of the Pacific region have jointly established a number of regional organisations over the past century, it is more accurate to refer to regional co-operation than to regional governance. Whereas 'governance' implies some institutional basis for decision-making and action, the forms of co-operation that typify interstate collaboration in the region, in such matters as technical assistance and information sharing, are more properly described as 'soft multilateralism'. This includes the provisions of the Biketawa Declaration (2000), which – notwithstanding the fact that they have provided the basis for regional security strengthening operations in the Solomon Islands and Nauru – is yet another instance of co-operation rather than obligation. The Declaration did not, for instance, assist the Pacific countries in resolving the political conflict that culminated in Fiji's fourth (2006) coup. The Treaty establishing the Pacific Islands Forum, signed by all parties in 2005, is yet to come into force since some parties are yet to ratify it.

CROP is similarly a co-operative arrangement, established in 1988 to improve co-operation, co-ordination and collaboration among intergovernmental regional organisations in the region. Its current members are the Forum Secretariat (as chair), the Forum Fisheries Agency (FFA); Pacific Islands Development Programme (PIDP); Secretariat of the Pacific Community (SPC); Secretariat of the Pacific Regional Environment Programme (SPREP); South Pacific Tourism Organisation (SPTO); University of the South Pacific (USP); Pacific Power Association (PPA); and Pacific Aviation Safety Office (PASO).

The value of this form of collaboration is not in doubt. The questions to be asked, however, are whether it is sufficient to meet the needs of the member countries in

the coming decades, and whether there are additional areas of governance that could benefit from organisations at the regional level. There are, for instance, regional organisations for law officers (Pacific Islands Law Officers' Network), the Oceania Customs Organisation, and the Pacific Islands Chiefs of Police Secretariat, among others.

The process of deepening integration among the Pacific island countries requires greater clarification of consultation and decision-making processes, commitment of resources, milestones and time frames.

Although regional agencies already provide policy advice to the Pacific countries in all sectors, there is a need to establish a mechanism that generates studies on options for the future architecture of Pacific regionalism. Such studies have already been produced, but not in a longitudinal way. There is a need to establish a mechanism that generates 'foresight' studies, especially concerning the implications of globalisation for the Pacific region. There is also a need for the ongoing production of policy options for pooled services, including services by independent state agencies such as Ombudsman, Auditor-General and Public Prosecutor. There is a need for the independent assessment of the effectiveness of regional agencies and international development assistance.

Adjacent to these issues are the practices of 'subregionalism'. Subregional groupings include the Melanesian Spearhead Group (PNG, Solomon Islands, Vanuatu, Kanak Socialist National Liberation Front and Fiji), the Micronesian Chief Executives' Summit (Commonwealth of the Northern Mariana Islands, Guam, Federated States of Micronesia, Republic of the Marshall Islands and Palau), the Polynesian Leaders' Group (Samoa, Tonga, Tuvalu, Cook Islands, Niue, American Samoa, French Polynesia, Tokelau), and the Smaller Island States (Cook Islands, Federated States of Micronesia, Kiribati, Niue, Tuvalu, Republic of Marshall Islands, Nauru and Palau). These subregional groups facilitate co-operation on issues of particular shared concern. The Micronesian Chief Executives' Summit, for instance, which first met in 2003, has a focus on Recycling, Invasive Species, Energy, Telecommunications, Tourism, Transportation Committee, Workforce Development, Health Committee; and Sustainability.[31] The Melanesian Spearhead Group, whose Secretariat was formally established in 2008, has a focus on subregional trade, investment and economic development, and on strengthening political ties in the subregional.

Pooled services

The concept of 'pooled services' is that countries may collaborate in the joint delivery of services which they are not able to deliver on their own. Not all of the Pacific island countries, for instance, have the resources to establish adequate cancer or diabetes treatment, and exploration is underway to determine how they could co-operate. It is evident, similarly, that the smaller states lack aspects of educational, technological, legal and financial capability, so that they struggle, for instance, with auditing of government agencies, and with prosecuting instances of sophisticated fraud, to the extent that a joint regional office of audit, or of public prosecution, might be beneficial. For example, the Pacific Association of Supreme Audit Institutions (PASAI) has commenced 'co-operative audits'.[32]

However, delivery of pooled services by Pacific island countries has not spread beyond shared ownership of the University of the South Pacific. Efforts to share an airline and shipping line did not continue, and a more recent effort to establish joint purchasing of petroleum has similarly failed. A recent study of 20 Pacific regional pooling initiatives found approximately half to be successful, that no two pooled services looked the same, and that regional pooling initiatives were more attractive to donors than to national political leaders (Dornan and Cain 2014, pp. 555, 557). This finding implies that further consideration is required within individual Pacific island countries about which services they could deliver more efficiently and effectively through collaboration, and how best to proceed.

Although there has been some analysis of the benefits of introducing a regional currency (Jayaraman and Choong 2009), options could also be explored for the establishment of regional Ombudsman, courts, Audit, Public Prosecutor, and statistics. Consideration should also be given to the development of an ongoing forum for consideration of constitutional and institutional reform ideas suitable for economic and political integration in the Pacific context. The Pacific Forum's current programme of soliciting 'regional public policy submissions' is a useful entry point for identifying issues of common concern to all Pacific island countries.

Funding

Current data suggest that metropolitan countries put more finance into Pacific regional organisations than member countries do; the implication being that unless Pacific island countries demonstrate their commitment to regional arrangements through the provision of greater resources, Pacific regionalism will continue to be an aspiration driven from beyond the region rather than from within it. In 2016, Forum Leaders tasked the Pacific Islands Forum Secretariat to undertake an analysis of the governance and financing of Pacific regionalism, with a view to determining how Pacific countries can collectively ensure the appropriate financing of a regional agenda. Importantly, the analysis will explore options to enhance the governance of regional financing through regional organisations, from whatever source.

Accountability

There is also the question of accountability. In the Pacific region's democratic future, who should regional intergovernmental organisations be responsible to? Are their programmes accountable in any way to Pacific islander constituencies? But questions concerning the Pacific's future regional governance extend beyond consideration of the existing framework, to whether additional governance functions should be considered. Should there be, for instance, a regional court of appeal? Or a regional human rights commission? Or regional Ombudsman, or Auditor-General? Will the decisions to be taken about the region require legitimacy through a regional parliament or some other form of representation? Future approaches to regionalism may or may not include revision of sovereign relations. But whichever path the Pacific nations choose, their decision will benefit from consideration of other regionalisms, whether European, Caribbean, Asian or African (Ridolfi 2007; Yihdego 2011; Lewis 2006; Bishop, Girvan *et al.* 2011; Borzel 2012).

If funding of regional initiatives is an unaddressed challenge, establishing accountably for regional governance may be even more difficult. At the national level, potential mechanisms for accountability range from political – such as through elections – to administrative and legal. Of the three, only administrative accountability currently exists for regional projects. The Forum Principles of Good Leadership establish a duty for leaders to ensure that their people have ready 'access to the administrative laws governing access to government benefits, the applications of taxes, duties, and charges, etc.' and that 'executive discretion is at a minimum'. But there is no regionally elected body, and there is no regional law, enforceable through a regional court. Employees of CROP agencies are accountable for their results to their immediate superiors and ultimately to their advisory boards, but they are not regional public servants accountable to a regional equivalent of a regional public service commission or public service department. The lines of accountability of existing Pacific regional organisations need to be explained more clearly to the interested public. The mandates, activities and results of CROP working groups should be more easily and systematically made available to the public.

3.4 Pacific islands political governance: looking to 2050

The key governance indicators for the Pacific present a conundrum: on the one hand, development assistance statistics suggest that the region receives the largest amount of assistance, per capita, of any part of the world. Indicators for economic growth and for human development, on the other hand, show only modest increases in well-being. That so much human and material support is entering the Pacific region for so little outcome must eventually cause policy-makers and political leaders to re-examine their frameworks and to become receptive to new approaches.

Looking to 2050, the future path of Commonwealth Pacific small states and the region as a whole depends on choices made by its peoples and their leaders. Will they all 'sail together' or will a few among them advance more quickly by catching a stronger breeze?

3.4.1 No change

One possible scenario for Commonwealth Pacific small states, and for the region, is 'business as usual', sometimes called 'status quo', or stasis. In this scenario, governance neither significantly declines in coming years, nor does it significantly improve. This outcome will be achieved if these Pacific nations continue with the political culture as currently practised. Elections will continue to be held as scheduled, but due to the instability of political coalitions, parliaments will continue to sit less often than is required to undertake adequate oversight of the executive. Legislative programmes will respond principally to international requests for compliance (such as reforms to security, finance, biosecurity requirements). Health and education budgets will remain stable, and enhanced services will be established through donor support. Such a country will continue to rely on development assistance, and at the regional level will, engage in low-level co-operation only. Ongoing lack of social services on outer islands will continue to fuel urban drift, and urban authorities will continue

to struggle with the provision of urban infrastructure. Those living in villages and informal settlements will continue to be neglected. National governments will continue to call on CROP agencies for policy advice and look to foreign partners for material support. The CROP agencies, for their part, will continue to focus on programmes that promote collaboration and capacity-building. Some attention will be given to compliance with the Sustainable Development Goals, and Samoa Pathway, as well as initiatives born out of the Framework for Pacific Regionalism, so long as external resources are provided. Climate change will affect coastal communities and internal migration issues will create tensions. Human development will increase, but more slowly than on the continents of Asia and Africa and leave such Pacific countries with 'less developed country' status. The Pacific countries will continue to send representatives to global conferences with an emphasis on identifying financial and other benefits for 'less developed countries'.

3.4.2 Deterioration

A second possible outcome in the coming years, one which few would want to consider, is deterioration in the quality of political governance that leads to state failure, or 'regime' failure.[33] Solomon Islands came close to such a condition in the early 2000s, as did Bougainville during its separatist struggle with the mainland. Failure will always be an option if a people and their governments do not remain vigilant. In such a scenario, the antagonisms that are embedded in opposing political parties increase, and those who hold executive power begin to stifle democratic processes in order to retain their authority. Elite interests capture executive power, and focus on exploitation of rents. Unsustainable natural resource exploitation depletes future revenue potential and speeds up environmental degradation. The role of parliament is minimised and public-sector leadership is politicised. The institutions of accountability, such as Ombudsman, Public Accounts Committee and Auditor-General are suppressed. Poor governance leads to a fall in government revenues, and this leads to a loss of investor confidence. Media and civil society are intimidated. Material and human capital begins to take flight, and development agencies ease up their commitment to longer-term projects. Neglect of social services leads to decline in human development outcomes, rise in social unrest and calls for separatism. The younger generations send ever-decreasing remittances. Adverse weather events threaten food security and degrade physical infrastructure, including transport and communications networks. The climate of uncertainty begins to keep tourists away. Leaders continue to participate in global meetings, but mostly to justify their circumstances rather than to engage in global policy dialogue. The state or states experiencing this upheaval begin to consume the time and resources of the regional agencies and the Pacific Leaders, which in turn draws resources from region-building activities.

3.4.3 Transformation

The third potential outcome, which serves as a higher aspiration for the Pacific islands region, is that of transformation. Transformation refers to the harnessing of sufficient political will to overcome the region's systemic challenges. In general terms, it means

grounding all policies on values of social justice and sustainability, and ensuring that the apparatus of government serves all citizens equally, and to high standards. Public values of transparency, accountability and social inclusion are articulated. A country or group of countries seeking such transformation aspires to being smart, and sustainable. Being 'smart' implies applying information and communication technologies to the production of information societies; knowledge societies. Being 'sustainable' implies adapting the cost of government to the resources available. In a transforming society, the quality of education facilities is enhanced at all levels from primary to tertiary, and the curriculum is oriented toward the context of the learner. Such a transformation would require much more openness in government decision-making, and in discussion of results and outcomes. It requires what is now referred to as 'agility', or the ability of government to change rapidly in response to new ideas and approaches. This will include a shift to more inclusive consultative processes, and more multilevel partnerships that bring together regional, national and local actors both within and outside government. This also implies openness to periodic constitutional review. Transforming counties will respond adequately to opportunities provided by the SDGs and SIDS agendas, which includes 'owning' development activities and results. The need for more open information sharing and consultation will drive the expansion of e-government services, and online transactions will benefit citizens and business, as well as the many branches of government. Representatives will attend global meetings to learn of best practices and to share the Pacific's experience. Pacific regionalism will build on the lessons of regional organisations in other parts of the world: far from being 'one-size-fits-all', it will allow countries to opt in to shared services and decision-making in sectors in which joint services more adequately meet their citizen's needs and expectations.

3.5 Recommendations

Faced with the above three scenarios, what are the options for Commonwealth Pacific small states? This chapter has suggested that the building of institutions at national level that characterised the first post-independence decades must now be joined by an effort to not only continue developing capacity at national level, but to develop capacity at subnational, regional and global levels. The subnational level requires greater attention to government of urban and rural communities. The regional level implies continued efforts to seek a model of regional governance suitable to the Pacific context. At global level there will be ever-greater engagement with global policy networks and various international/global institutions. At all these levels, political actors in Pacific island countries must respond to the evolving circumstances of their constituents. Political and public-sector institutions need to strengthen partnerships and collaborative arrangements with civil society organisations and to build networks which can assist with creating equitable, just and safe societies. Pacific people, who may have been treated as *subjects* during the colonial era or as *peasants* and *rural-dwellers* during the early years of independence, now demand and expect treatment as *citizens* who possess rights and genuine development aspirations. So what steps should the Pacific nations take in pursuit of transformation in the years to 2050?

3.5.1 Local governance

Local governance across the Pacific can be strengthened by developing sustainable legal, financial and administrative frameworks for both urban and rural local authorities. This requires reform to laws concerning intergovernmental relations, together with capacity-building.

Where Constituent Development Fund arrangements are in place, steps should be taken to ensure that adequate separation of powers between legislative and executive branches of government is maintained. Ideally, such constituency funds should be reduced over time, so that MPs have sufficient time to focus on their responsibilities in the legislature.

Local government capacity can be built in collaboration with development partners and civil society. National consultation processes should be initiated to discuss the role of local government in implementing the SDGs, and in implementing the New Urban Agenda, agreed at Habitat III.[34]

3.5.2 National governance

National governments across the Pacific can strengthen democratic culture and practice. This includes guaranteeing freedom of speech, which provides the foundation for an active media, vocal citizenry, and committed civil society – all of which provide essential feedback on matters of public interest.

Accountability for the quality of public leadership codes can be strengthened through:

- Extension of leadership codes – where they do not currently exist – to cover MPs as well as public servants.
- Reporting of public-sector performance as measured by the Forum Principles Good of Leadership and Forum Principles of Accountability.
- Eliminating all gender-based forms of discrimination.

National governments across the Pacific can strengthen democratic institutions and practice by the following actions:

- Encourage adherence to Cabinet manuals that establish, by convention, the roles and responsibilities of cabinet, and relations between Ministers and permanent secretaries.
- Strengthen the autonomy and effectiveness of the legislature through such measures as an independently assigned budget.
- Publish an annual parliamentary calendar (work programme) to facilitate planning by MPs, committees, administrative support staff, government departments and agencies, and the public.
- Strengthen the function of legislatures through revision of Standing Orders to specify duration of sessions, and standards for debate, question time, etc.
- Encourage legislatures to develop e-parliament practices on the basis of standards issued by the Inter-Parliamentary Union.

- Ensure the autonomy of the Public Service Commission, which will insulate the public sector from nepotism and politicisation.
- Strengthen relations between the Central Government Agencies to improve co-ordination, efficiency, and policy coherence.
- Undertake a whole-of-government approach to e-government to increase transparency, efficiency, policy coherence and service delivery.
- Participate in the Open Government project, and apply principles of transparency in such areas as government procurement.

While national governments should continue to value the feedback on performance provided by CROP agencies and international development partners, governments should also put more emphasis on developing their own capacity for policy analysis. This will make them stronger partners in national, regional and global policy dialogue arenas.

To demonstrate political commitment to regionalism, national governments should consider establishing ministries for Pacific integration, or at a minimum, establish a dedicated branch for Pacific integration within one of the existing ministries. National parliaments might also consider establishing a parliamentary select committee on Pacific regionalism, or else assign this responsibility to an existing committee.

3.5.3 Regional governance

The process of delivering 'deeper integration' by the Pacific island countries requires greater clarification of consultation and decision-making processes, research, commitment of resources, milestones and time frames. As the lead agency for the articulation of policy, these should be initiated by the Pacific Islands Forum Secretariat. The Pacific island countries should share more widely their analyses of needs and concerns about options for regional governance.

The lines of accountability of existing Pacific regional organisations need to be explained more clearly to the interested public. The mandates, activities and results of CROP working groups should be more easily and systematically made available to the public.

'Subregionalism' is an important aspect of Pacific regionalism. Subregional groupings – including those which already exist – can play constructive roles in identifying the most appropriate areas for co-operation leading to closer integration. Not all Pacific countries need to participate in every regional initiative.

Although regional agencies already provide policy advice to the Pacific countries in all sectors, there is a need to establish a mechanism that generates studies on options for the future architecture of Pacific regionalism. Such studies have already been produced, but not in a longitudinal way. There is a need to establish a mechanism that generates 'foresight' studies, especially concerning the implications of globalisation for the Pacific region. There is also a need for the ongoing production of policy

options for pooled services, including the services of independent state agencies such as Ombudsman, Auditor-General and Public Prosecutor. There is a need for the independent assessment of the effectiveness of regional agencies and international development assistance. Internationally, there are models such as The Netherlands Scientific Council for Government Policy,[35] a suitable adapted version of which could be tasked with generating options for the future of the Pacific islands.

Whereas the Pacific states already co-operate in some aspects of their engagement in global governance, this engagement requires further consideration and elaboration, so that the interests of all Pacific people are adequately represented in the deliberation and decision-making processes of global policy networks and global institutions.

Notes

1 This chapter benefited from valuable comments from the Pacific Islands Forum Secretariat (Sione Tekiteki, Alfred Soakai, Timothy Bryar, Anna Naupa and Angela Thomas), the University of the South Pacific (Professor Vijay Naidu) and the Commonwealth Secretariat (Katalaina Sapolu, Marie-Pierre Olivier, Mark Guthrie, Albert Mariner, Tres-Ann Kremer, Resina Katafono, Denny Lewis-Bynoe and Wonderful Hope Khonje).

2 The exceptions being Kiribati and Fiji, which have adopted 'Republican' models with Westminster characteristics.

3 See Parliament of Vanuatu (2015).

4 Autonomous region in PNG.

5 The Pacific Islands Forum consists of the nine Commonwealth Pacific small states plus Australia, Cook Islands, Federated States of Micronesia, New Zealand, Niue, Republic of the Marshall Islands and Palau.

6 For the case of Samoa see International Aid Transparency Initiative (IATI) 2013.

7 Sustainable development that combines economic social, and cultural development in ways that improve livelihoods and well-being and use the environment sustainably; Economic growth that is inclusive and equitable; Strengthened governance, legal, financial, and administrative systems; and Security that ensures stable and safe human, environmental and political conditions for all.

8 See http://www.sids2014.org/samoapathway

9 See http://www.un.org/sustainabledevelopment/

10 Most proposals for systemic change have been made by external observers rather than from within – such as Henderson's query about presidential rather than parliamentary systems (Henderson, 2004a); and Moore's call for a Pacific parliament (Moore, 1982).

11 When establishing the Tongan constitution of 1875, Tupou I ensured that it could not be changed easily, with amendments requiring an additional confirmation two years later before coming into force. Although this provision was removed in 1880 the conservative tendency was entrenched (Powles, 2007).

12 http://www.pianzea.org/

13 In comparison, turnout of voting age population in the United States in 2014 was 33%; 60% in the United Kingdom (2014), and 70% in India (2014) (IDEA 2016).

14 In Tuvalu, few elected MPs develop and present to their constituents a manifesto of what they intend to achieve during their four-year term, and most policies at community level are formulated by the Rural Development Department at the central government. In PNG, the Integrity of Political Parties and Candidates Commission has been established to oversee the integrity of political parties.

15 Melanesia refers to Fiji, PNG, Solomon Islands and Vanuatu.

16 See http://www.pacific.undp.org/content/pacific/en/home/ourwork/democraticgovernance/overview.htm. Induction programs have been run by UNDP, the Commonwealth Parliamentary Association, the Centre for Democratic Institutions, and other development agencies.

17 MPs do not all play identical roles in Parliament: there are different expectations and demands depending on whether an MP is a minister and member of cabinet, a committee member or committee chair; and MP skills and experience will vary depending on whether they are in their first term or some subsequent term.
18 In Solomon Islands, a new building opened at the National Parliament in September 2012 to provide offices for individual MPs, and the Parliament's Officers (Speaker and Clerk) are working toward 'autonomy' (i.e. an independent fiscal allocation). In Tonga, also, a new complex will include a legislative chamber that includes a gallery for the public.
19 For a number of years, issues of Parliamentary strengthening were addressed at the Forum of Presiding Officers established under the auspices of the Pacific Islands Forum, a body that should be revived.
20 See https://picpa.usp.ac.fj/the-region/
21 See http://www.forumsec.org/pages.cfm/strategic-partnerships-coordination/pacific-principles-on-aid-effectiveness/forum-compact/forum-compact-peer-review-reports.html
22 Vanuatu's radio transmitter did not function during 2004–2008 and most citizens beyond the capital had no access to parliamentary debates. The radio transmitter is fixed, talk-back radio has restarted, and people call in from all around the country.
23 Including the Ten Year Pacific Statistics Strategy (TYPSS) 2011–2020, which covers National Strategies for the Development of Statistics, standards and classifications, Household Income and Expenditure Survey, prices, business statistics, International Merchandise Trade Statistics, agriculture and rural statistics, tourism statistics, demographic health surveys, population and housing census, education statistics, use of administrative databases in sourcing data, civil registration and vital statistics, and dissemination of statistics/information.
24 See, for example, https://www.lowyinstitute.org/the-interpreter/some-facts-about-lowys-fiji-poll
25 Country profiles are available online at: http://www.clgf.org.uk/resource-centre/clgf-publications/country-profiles/
26 Commonwealth Local Government Forum - Pacific Project (2010). Port Vila Declaration on Building Vibrant & Resilient Local Economies & Communities in the Pacific. Port Vila, Commonwealth Local Government Forum.
27 See, for example, http://unhabitat.org/Papua%20New%20Guinea/
28 The exceptions being urban villages, which are traditional villages that have been engulfed by urban sprawl.
29 Henderson points out that 'A Polynesian federation was proposed in 1880 by the then King of Hawaii, who saw himself as the regional leader. The idea was revived in the 1980s, by Cook Island Premier Sir Tom Davis. It was backed by Gaston Flosse, the then President of Polynesia, the King of Tonga (who saw himself as the leader) and some New Zealand Maori leaders. Samoa was not interested, unless it could have the lead role. New Zealand was lukewarm, with the then Prime Minister David Lange unwilling to provide the necessary funding. The idea lapsed when Davis and Flosse lost power.'
30 The report of October 2013 was based on visits to all 18 member or associate-member countries of the Pacific Islands Forum, and interviews with more than 700 stakeholders, together with 70 public submissions, commissioned studies on specific issues, and literature review amounting to 'one of the most substantive consultations about contemporary Pacific issues ever mounted. Pacific Plan Review (2013). Report to Pacific Leaders: Vol. 1. Suva, Pacific Islands Forum Secretariat, p. 2.
31 See, for example, http://pohnpeimet.fm/chiefexecutivesummit.htm
32 See http://www.pasai.org/
33 This has in the past been referred to as the 'Africanisation' thesis, which holds that states that do not cultivate good governance run the risk of sinking into a state of chaos in the manner experienced in such countries as Sierra Leona, Sudan and Somalia.
34 Habitat III refers to the United Nations Conference on Housing and Sustainable Urban Development, held in Quito, Ecuador, in October 2016.
35 See http://www.wrr.nl/en/home/

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Chapter 4

Development Effectiveness and Co-ordination: Partnerships on Pacific Terms

Garry Wiseman

4.1 Introduction[1]

The majority of the Commonwealth Pacific small states (Fiji, Kiribati, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) are anticipated to continue to rely on the support of a range of development partners in the foreseeable future. For countries like Tuvalu, Kiribati and Nauru, most of their development effort is funded with external support, and with limited prospects for generating significant new local revenue it is envisaged that this situation will remain much the same in 2050. However, all nine Commonwealth Pacific small states' governments and their development partners recognise the importance of ensuring that the receipt of aid does not in any way reduce efforts to maximise the mobilisation and effective use of domestic resources.

These developments are in line with global thinking, which is reflected in the Busan Partnership,[2] where it was agreed that aid should be considered a complement to other sources of development finance and a catalyst to mobilise resources to achieve development goals. This partnership urges all development partners to reconsider how and for what purpose aid is invested, ensuring that it is in accordance with commitments towards human rights, decent work, gender equality, environmental sustainability and disability.

Although specific global attention has been given to the issues of development effectiveness and co-ordination, with a series of high-level meetings held since 2003, it must be acknowledged that many of these issues have been discussed in the Pacific much earlier than this. For example, in a speech given in 1993 by the then Secretary-General of the Pacific Islands Forum,[3] Mr Ieremia Tabai noted that:

> *it is not simply a two-party relationship between donors and recipients. It also includes partnership between donors, between aid agencies, between the PICs themselves, between the public and private sector within those countries and between governmental aid agencies and NGOs.*[4]

However, he also emphasised that for the development process to be successful, it was imperative that the recipient country be central in the partnership.

A meeting of development practitioners in the Pacific in 2012[5] underlined the importance of local ownership of the development process and concluded that people's attitudes (shaped by their culture, history and recent experience) are what impacts development progress. Self-respect, social cohesion, energy, openness to

change, and the involvement of honest and accountable leaders and governments, were also reported as critical to ensuring development effectiveness.

It is clear that there is a

> *growing recognition among donors that their core business is development effectiveness, not just aid effectiveness. As a consequence, there is now more emphasis given to addressing the impact of non-aid policies on development outcomes.*
>
> (Lockhart 2005)

This means that policy-makers seek not only to reduce a lack of coherence between aid, trade, finance, security, immigration and drugs policies that may result in contradictory outcomes, but also to mobilise complementary policies to achieve certain policy goals. In particular, there have been a number of country-based and development partner supported initiatives to strengthen the policies, processes and systems for planning, budgeting and service delivery.

This chapter outlines a range of issues that relate, directly and indirectly, to the level of development effectiveness achieved by the Commonwealth Pacific small states, and identifies national and regional policy options for strengthening results in the future. It highlights the steps already taken in the Pacific, at both national and regional levels, to make progress, and also underlines the importance of understanding the differences that exist in the economic and social determinants of the nine states. These determinants include their population size, availability of human and other resources, governance structures, political histories, cultural and social factors, and their current overall level of development.

4.2 Context

The nine Commonwealth Pacific small states are part of a unique and diverse region. Papua New Guinea (PNG) is the largest among the group with a population of about 7.3 million, while Tuvalu and Nauru, each with populations of around 10,000, are the smallest in the group by population. Kiribati is one of the most remote and geographically dispersed countries in the world, consisting of 33 coral atolls spread over 3.5 million square kilometres of ocean – an area larger than India. Solomon Islands is geographically splintered with 1,000 small islands and atolls. It has a low population density, with half a million people dispersed across 90 inhabited islands, 78 per cent of whom reside in rural areas, and is the poorest country in the Pacific when measured in terms of Gross National Income (GNI) per capita.

Each of these states face similar challenges as relatively small and remote island economies. Apart from PNG and to some extent Solomon Islands and Fiji, they have limited natural resources, narrowly based economies, large distances to major markets, and vulnerability to exogenous shocks – all of which can affect growth and have often led to a high degree of economic volatility. They are also some of the most vulnerable states in the world to the effects of climate change and natural disasters. Given this, it is generally recognised that sustained development progress will require long-term co-operation between international partners and governments. More broadly, greater economic integration, more equitable natural resource agreements,

Table 4.1 Growth rates of real GDP (%)

Country	2000	2005	2007	2008	2009	2010	2011	2012	2013	2014
Fiji	–1.7	–1.3	–0.9	1.0	–1.4	3.0	2.7	1.8	4.6	
Kiribati	5.3	–0.2	7.5	2.8	4.3	–2.2	–1.2	3.8		
Nauru		–9.8	–10.8	95.6	–20.3	20.1	14.2	20.2		
PNG	–2.5	3.9	7.2	6.6	6.1	7.6	11.3	7.7	4.9	8.4
Samoa	8.6	4.7	6.1	–1.0	–4.0	4.4	3.5	–2.3	0.5	1.6
Solomon Islands	–14.2	5.0	10.7	7.3	–1.8	7.9	10.6	3.3	3.1	2.0
Tonga	–0.8	1.6	–4.5	1.9	3.2	3.3	2.9	0.8	–3.1	2.0
Tuvalu		–3.9	6.4	8.0	–4.4	–2.7	8.5	0.2	1.3	2.2
Vanuatu	5.9	5.3	5.2	6.4	3.3	1.6	1.2	1.8	2.0	

Source: Key Indicators for Asia and the Pacific 2015, Asian Development Bank

more open labour markets and adaptation to climate change will be vital for the long-term future of the Pacific islands.

As shown in Table 4.1, annual GDP per capita growth across the nine countries has fluctuated significantly over the period 2000 to 2014. This highlights the vulnerability of these open economies to movements in global financial markets and fluctuations in oil and commodity prices. As noted already, the Pacific region is also highly vulnerable to a range of natural disasters that can quickly undo any development progress made. For some of these countries, there have been intermittent political coups, civil unrest, and frequent changes of government and/or leadership that have helped disrupt real progress.

Collectively, the Pacific region's progress in meeting the targets that were set under the Millennium Development Goals (MDGs) was slow and uneven. PNG's population of around 7 million people meant that overall progress for the region was dependent on PNG's progress. Consequently, as PNG remained off-track on all the MDGs, the region was also considered to be off-track on all the goals. However, excluding PNG, the region was assessed to be on track towards reducing child mortality, with mixed progress on all the other goals. The Polynesian countries (Samoa, Tonga and Tuvalu) reported better progress comparatively than the countries of Melanesia and Micronesia, and were reported to be on track to achieve four of the goals – achieving universal primary education, reducing child mortality, improving maternal health, and ensuring environmental sustainability (PIFS 2015a).

4.2.1 Development assistance to the region

Total official development assistance (ODA) flows to the nine Commonwealth Pacific small states was mixed, with Kiribati, Tuvalu and Vanuatu showing a small increase in support between 2013 and 2014, while Fiji, Nauru, PNG, Samoa and Tonga saw relatively small reductions (Table 4.2). However, when these flows are set against GDP levels, it demonstrates that in 2014, aid made up about 90 per cent of Tuvalu's GDP and more than 45 per cent for Kiribati. In the case of Samoa, Solomon Islands, Tonga and Vanuatu, aid accounts for more than 10 per cent of GDP in all cases. Aid flows to Fiji and PNG, the bigger and more resource-rich of the countries, account for less than 5 per cent of GDP.

Table 4.2 Official development assistance, US$ million

Country	2012	2013	2014	2014 (% of GDP)
Fiji	101	91	95	2.1
Kiribati	60	65	81	48.5
Nauru	34	29	23	n/a
PNG	643	657	606	3.6
Samoa	116	118	95	11.9
Solomon Islands	291	288	208	18.0
Tonga	75	81	82	18.9
Tuvalu	23	27	35	92.1
Vanuatu	97	91	102	12.5

Source: OECD Statistics and OECD Development Aid at a Glance, *Statistics for Oceania*, 2016 Edition

The distribution of per capita aid is very different from that of total aid. The largest recipients of aid in the region – PNG, Solomon Islands, Vanuatu, Samoa and Fiji – all come out receiving much less per person than Tuvalu, Tonga and Kiribati (Table 4.3). In terms of per capita aid, seven of the nine Commonwealth Pacific small states make up the top 15 countries that received the highest aid per capita in 2014 (OECD 2017). Tuvalu received the highest aid per capita in the world, with Nauru in second place; Tonga recorded 6th place, Kiribati 7th place, Samoa 9th place, Vanuatu 11th place and Solomon Islands 14th place in the world.

While the focus is on 'development effectiveness', of which aid is only one resource available to countries to promote development, it is clear that for some of the Commonwealth Pacific small states there is a very heavy reliance on external assistance to fund their development plans/strategies. Tuvalu, Nauru and Kiribati are heavily reliant on the support of development partners and it is expected that these countries will remain dependent on aid for the foreseeable future. In recognising this and the potential unreliability of continued development partner support, Tuvalu worked with a number of development partners (Australia, New Zealand and the United Kingdom) to establish an international sovereign fund, the Tuvalu Trust Fund

Table 4.3 Net ODA received per capita, current US$

Country	2011	2012	2013	2014
Fiji	91	123	104	104
Kiribati	611	606	595	716
Nauru	3,763	3,545	3,842	2,161
PNG	87	93	90	77
Samoa	545	639	621	483
Solomon Islands	631	555	514	347
Tonga	897	747	772	757
Tuvalu	3,950	2,484	2,714	3,476
Vanuatu	375	410	359	380

Source: World Development Indicators, the World Bank

in 1987, that remains in existence and continues to provide a source of funding for the annual recurrent budget.

4.3 Global and regional responses

This section includes a brief introduction to both the global and regional perspectives and highlights the high value placed on strengthening partnerships: across and between Pacific island countries and territories; between governments, non-government organisations and the private sector; between the countries and territories and the full range of other development partners (regional organisations, international and multilateral agencies, bilateral donors, private sector, non-government organisations and civil society); and between the development partners themselves (albeit under the leadership of the region or relevant partner country).

At the regional level there have been a number of initiatives to promote a greater degree of co-operation between the island countries and territories. The initiatives that are described in this section have all been designed to see the countries work together to bring development outcomes for the region. In no way is this expected to reduce the importance of national sovereignty; rather it is to recognise that in working together or supporting each other there can be added value and increased opportunities for promoting development effectiveness.

4.3.1 Importance of good policies and effective implementation

Although individual policies may be contested, what is clear from the Pacific 2020 report (Commonwealth of Australia 2006) is that there is broad agreement on some of the vital ingredients of growth. Good political governance, a dynamic private sector, regional co-operation, integration into global markets and well-managed infrastructure all emerged as essential for growth. This has been further underlined by the World Bank (Collier and Dollar 2001), which emphasises that to be effective, financial expenditure as a consequence of aid flows or other forms of public and private expenditure must be accompanied by a strong commitment to the development and implementation of well-defined economic, social and environmental policies. In this context, 'good policy' provides the necessary foundations for creating an environment for broad-based growth and poverty reduction.

The World Bank (Collier and Dollar 2001) measures the strength of good policy-making through its Country Policy and Institutional Assessment (CPIA), which has 20 components that can be grouped into four categories:

- *Macroeconomic policies:* whether fiscal, monetary and exchange rate policies provide a stable environment for economic activity;
- *Structural policies:* the extent to which trade, tax, and sectoral policies create good incentives for production by households and firms;
- *Public-sector management:* the extent to which public-sector institutions effectively provide services complementary to private initiative, such as the rule of law (functioning of the judiciary, police), infrastructure and social services;

- *Social inclusion:* the extent to which policy ensures the full participation of society through social services that reach the poor and disadvantaged, including women and ethnic minorities.

Globally, development partners have continued to explore ways to impact how partner governments operate, and in doing so to influence the way policies are defined and implemented. In some cases in the Pacific, development partners have established specific 'good governance programmes' and/or specific ways to reward good governance.

However, the allocation of an aid budget is often seen as a 'political process', influenced by: personal relationships between decision-makers in partner countries and development partners; the role of in-country technical advisers in specific sectors who are able to argue effectively for funding (either from recurrent or development budgets); and the fact that development partners have multiple objectives, the weighting of which and how they are applied will differ between partner countries. Lobby or interest groups can also have some influence over development partner decision-making. This latter point has been demonstrated in the USA and Australia, where certain interest groups have lobbied to prevent aid funding to support certain activities in family planning programmes in the Pacific and elsewhere.

From the perspective of enhanced development, not all objectives are equally legitimate. Poverty reduction and peace are self-evidently legitimate goals for aid, shared by all development partners. However, development partner agencies have to contend with the interests of lobbyists that want to further commercial or political interests, unrelated to poverty reduction and/or peace objectives. By being explicit about its objectives and its allocation rules, a development partner may better defend itself from illegitimate pressures by demonstrating what the full costs are in terms of the legitimate objectives of making changes to its development programme objectives as a result of other pressures (Collier and Dollar 2001).

4.3.2 International commitments on development effectiveness

Amidst post-war optimism, global international development co-operation expanded in the early 1960s and it has continued to evolve. However, as with the rest of the world, the Pacific has also seen this expansion in development co-operation sometimes accompanied by a lack of co-ordination; establishment of overly ambitious targets; development of unrealistic expectations on when and how outcomes are to be achieved; and often variations in development partner budget commitments compared with the actual flows of funding. As noted in the previous section, there have also emerged concerns about the ways in which partners have used aid funding to shore up political self-interest, or by funding projects that have been insufficiently well designed or monitored during their implementation.

Under the auspices of the OECD, there have been four High-Level Fora on Aid Effectiveness: in Rome, Paris, Accra and Busan in 2003, 2005, 2008 and 2011, respectively. These high-level events have led to the formulation of four principles towards effective aid that are set out in the Busan Partnership Agreement, endorsed

to date by over 100 countries (including all of the Commonwealth Pacific small states except Nauru) as the blueprint for maximising the impact of aid. The formulation of these principles grew out of a need to understand why aid was not producing the development results expected, as well as to step up efforts to meet the ambitious targets set by the MDGs.

The heads of state, ministers and representatives of developing and developed countries, heads of multilateral and bilateral institutions, representatives of different types of public, civil society, private, parliamentary, local and regional organisations present at the High-Level Forum in Busan noted that the development effectiveness principles were consistent with agreed international commitments on human rights, decent work, gender equality, environmental sustainability and disability and formed the foundation of the co-operation for effective development. The four Busan principles are:

- **Ownership of development priorities by developing countries**. Partnerships for development can only succeed if they are led by developing countries, implementing approaches that are tailored to country-specific situations and needs.
- **Focus on results**. Investments and efforts must have a lasting impact on eradicating poverty and reducing inequality, on sustainable development, and on enhancing developing countries' capacities, aligned with the priorities and policies set out by developing countries themselves.
- **Inclusive development partnerships**. Openness, trust, and mutual respect and learning, lie at the core of effective partnerships in support of development goals, recognising the different and complementary roles of all actors.
- **Transparency and accountability to each other**. Mutual accountability and accountability to the intended beneficiaries of development co-operation, as well as to respective citizens, organisations, constituents and shareholders, is critical to delivering results. Transparent practices form the basis for enhanced accountability.

The Global Partnership for Effective Development Co-operation (GPEDC), created at the Busan High-Level Forum, is seen as an inclusive political forum bringing together governments, bilateral and multilateral organisations, civil society and representatives from parliaments and the private sector, committed to strengthening the effectiveness of development co-operation to produce maximum impact for development. Through its multi-stakeholder platform, the Global Partnership provides support and guidance and shares knowledge to boost development impact with a strong country focus, and to ensure a degree of coherence and collaboration among all development stakeholders on co-operation flows and policies. It offers a global mechanism to ensure that co-operation is based on Busan principles of ownership, results, inclusiveness; and transparency and accountability to deliver tangible results on the post-2015 agenda.

As a voluntary and multi-stakeholder forum, the Global Partnership plays a role in supporting implementation of the SDGs. The Global Partnership also tracks progress

in the implementation of Busan commitments for more effective development co-operation, through its monitoring framework comprising a set of ten indicators (see Appendix 4.1). These indicators focus on strengthening developing country institutions, increasing transparency and predictability of development co-operation and enhancing gender equality, as well as supporting greater involvement of civil society, parliaments and the private sector in development efforts.

The ten global indicators are grounded in the principles of country ownership, results focus, inclusive partnerships; and transparency and accountability. Each indicator includes a target for 2015, providing a foundation to measure progress in making development co-operation practices more effective. Periodic monitoring of progress on the indicators – complemented by other qualitative evidence – is used to inform discussions at the ministerial level. The first progress report, released in 2014 ahead of the Mexico High-Level Meeting, demonstrated the relevance of operational evidence to inform political discussions on the effectiveness of collective efforts, and to spur concrete action to accelerate progress. Forty-six countries participated in the first monitoring round (including Kiribati, Nauru and Samoa), with over 70 co-operation providers' data reported. The Steering Committee and the Joint Support Team of the GPEDC, which has included a very significant contribution from the Pacific, including the Government of Samoa and the Pacific Islands Forum Secretariat (PIFS), looks at ways to strengthen the process for monitoring.

4.3.3 The SAMOA Pathway

The Third International Conference on Small Island Developing States (SIDS) took place from 1–4 September 2014 in Apia, Samoa, under the theme of 'The Sustainable Development of SIDS through Genuine and Durable Partnerships'. The host government emphasised the need for the conference to focus on the promotion of 'realistic partnerships' to draw attention to the ultimate importance of all development partners working together in a mutually supportive way if the development aspirations of the small island states were to be achieved. Diverse actors from SIDS, the developed and the developing world, civil society and the private sector came together, realising that only in partnership could they hope to guide the world clear of threats and bring it closer to solutions and fulfilled commitments. The conference produced an outcome document, titled 'SIDS Accelerated Modalities of Action (SAMOA) Pathway' (United Nations 2014).

While the SAMOA Pathway highlighted the need for progress on a range of development issues, it also recognised gender equality and rights, as transformative drivers of sustainable development. To empower women as agents of change, the SAMOA Pathway supports eliminating gender discrimination and violence, integrating gender perspectives into sustainable development, and enabling equal access to education, health and work opportunities. The Pathway also promotes continued measures and targets to ensure women's participation in leadership decision-making at all levels, and in both the public and private spheres. The Pathway supports the human rights and sexual and reproductive health and rights of all women in SIDS, in accordance with existing international agreements.

In addition, the SAMOA Pathway stressed the importance of enhanced development effectiveness if the SIDS were to make real progress in achieving sustainable development. In this regard, it noted the need to increase programme-based approaches, use country systems for activities managed by the public sector, reduce transaction costs and improve mutual accountability and transparency, and called on all donors to untie aid to the maximum extent. The SAMOA Pathway also indicated that all participating countries would seek to make development more effective and predictable by providing developing countries with regular and timely indicative information on planned support over the medium term.

4.3.4 The Sustainable Development Goals

On 1 January 2016, the 17 Sustainable Development Goals (SDGs) that were adopted by world leaders in September 2015 as part of the 2030 Agenda for Sustainable Development officially came into force. Over the next 15 years, countries will mobilise efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind.

The SDGs build on the success of the MDGs and aim to go further to end all forms of poverty. The new Goals are unique in that they call for action by all countries, poor, rich and middle-income, to promote prosperity while protecting the planet. The SDGs recognise that ending poverty must go hand in hand with strategies that build economic growth, and address a range of social needs, including education, health, social protection, and job opportunities, while tackling climate change and environmental protection.

While the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for the achievement of the 17 goals. Countries have the primary responsibility for follow-up and review of the progress made in implementing the goals, which will require quality, accessible and timely data collection. Regional follow-up and review will be based on national-level analyses and contribute to follow-up and review at the global level.

The means of implementation of the SDGs are covered under each of the goals, with SDG 17 focused on partnerships for the goals. SDG 17 places specific emphasis on development effectiveness, particularly the responsibilities of both partner countries and development partners, covering issues of finance, technology, capacity-building, trade and systemic issues. The targets covering systemic issues are key for development effectiveness (Box 4.1).

4.3.5 Pacific regional undertakings

As indicated already, for more than 20 years the Pacific has paid specific attention to the issue of development effectiveness. Consequently, Pacific island countries have actively participated in the global discourse on development effectiveness. Pacific perspectives have also been included in the ongoing development of the global development effectiveness agenda and the Global Partnership that has emerged. Globally, while the focus has been on the identification of ways to strengthen

Box 4.1 SDG 17 Target on systemic Issues

Policy and institutional coherence

- Enhance global macroeconomic stability, including through policy co-ordination and policy coherence.
- Enhance policy coherence for sustainable development.
- Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development.

Multi-stakeholder partnerships

- Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilise and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.
- Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

Data, monitoring and accountability

- By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing states, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.
- By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries.

development effectiveness at the country level, the Pacific has combined country-level initiatives with a number of regionally supported efforts. Given the small size of many of the Pacific island countries, there has been a strong focus on the promotion of regional collaboration, as well as on the delivery of services and support from a regional platform as a means to provide such support more cost effectively and efficiently. In other words, regional delivery mechanisms have been used to promote the benefits of adopting the principles of development effectiveness and also to encourage an increased commitment from development partners to work with partner countries to support the more effective use of aid as a complement to their own resources in promoting development.

Regional co-operation and the work of regional organisations, such as the PIFS, has helped focus national attention on the importance of achieving the MDGs through

better policies, systems and processes. In addition, it has provided a framework for promoting opportunities for even greater levels of co-operation and a number of initiatives designed to support a greater level of regional integration. This latter form of co-operation, co-ordination and integration has been at the basis of more than 40 years of the Pacific working together for both the benefit of the region as well as a means for further development progress at the national level.

While there are many views on the success or otherwise of regional co-operation and co-ordination in the Pacific, the concept of the region working together for economic and social advantage has led to the growth of a comprehensive architecture of regional organisations.[6] The membership, governing council arrangements and mandates and responsibilities of these organisations are different, as is the support each receives from development partners (some of which are also members). In 1988, Pacific Islands Forum Leaders established the Council of Regional Organisations in the Pacific (CROP),[7] with the mandate to improve co-operation, co-ordination, and collaboration among the various intergovernmental regional organisations in order to work towards achieving the common goal of sustainable development in the Pacific region. In 1995, Forum Leaders mandated the Secretary-General of the PIFS to be the Permanent Chair of CROP. The decision was reaffirmed at the Special Leaders Retreat in April 2004. Leaders also mandated the 'co-ordination role' of CROP to the Secretary-General, who also reports to leaders on CROP matters. In order to improve its effectiveness, the CROP Charter was reviewed in 2004 and 2012.

Over the years, the degree of confidence in many of the regional organisations has waxed and waned, somewhat depending on their performance in meeting country expectations of service and support; and on their success in resource mobilisation and ensuring effective financial management. As a consequence, there has been much written and a range of reviews undertaken on the success or otherwise of regional co-operation, as well as on what should be the best regional architecture for the Pacific.

Anthony Hughes in his 2005 report on Pacific Regional Organisations (Hughes 2005) offered the following as an explanation for why there is often a gap between rhetoric and reality:

> *When Heads of Government get together away from home a mutually uplifting experience can occur, in which their political feet temporarily leave the ground. … They may experience a strong sense of regional identity and common purpose, and their resulting joint statements may be set on a high visionary plane and be luminously expressed. But when they get home the tone commonly changes. Regionalism generally does not play well in domestic politics, and national governments are mainly concerned with staying in office. Statements by Heads of Government for home consumption may therefore shift to expressing reservations about loss of sovereignty and determination to protect the national interest, or simply saying nothing at all about regional issues. The order of political priorities thus revealed constrains national capacity to commit the resources needed for effective regional programmes, even in areas that are recognised as appropriate for regional cooperation.*

The late Epeli Hau'ofa in writing about regional co-operation emphasised the need for a common identity:

> *A common identity that would help us act together for the advancement of our collective interests, including the protection of the ocean for the general good, is necessary for the quality of our survival in the so-called Pacific Century when important developments in the global economy will be concentrated in huge regions that encircle us. As individual, tiny countries created by colonial powers and acting alone, we could indeed 'fall off the map' or disappear into the black hole of a gigantic Pan-Pacific doughnut. Acting together as a region, for the interests of the region as a whole, and above those of our individual countries, we would enhance our chances of survival in the century that is already dawning upon us. Acting in unison for larger purposes and for the benefit of the wider community could help us to become more open-minded, idealistic, altruistic and generous, less self-absorbed and corrupt, in the conduct of our public affairs than we are today. In an age when our societies are preoccupied with the pursuit of material wealth, when the rampant market economy brings out unquenchable greed and amorality in us, it is necessary for our institutions of learning to develop corrective mechanisms if we are to retain our sense of humanity and of community*.
>
> (Hau'ofa 2005)

Hau'ofa also highlighted the importance of the ocean and the role it plays in drawing the region together and the advancement of collective interests. The idea was subsequently picked up by Pacific Islands Forum Leaders, who in 2012 included in their Communiqué, a description of Pacific islands as 'large ocean states'.

Against this background, it will be important to revisit the contribution of regional organisations to help ensure development effectiveness, as well as to find ways to ensure that the national commitment to regionalism is a reality and does not in any way limit opportunities for individual countries to follow their own path.

The Pacific Plan and the Framework for Pacific Regionalism

The Pacific Plan[8] and the successor Framework for Pacific Regionalism are mechanisms to promote regionalism. These mechanisms encourage countries to work together and promote development effectiveness among the island countries and development partners. The Pacific Plan allowed many of the region's development partners to progress practical initiatives, such as regional collaboration to build the capacity of audit and customs, and the development and expansion of seasonal labour migration from the Pacific to Australia and New Zealand (Huges 2013).

The establishment of the Framework for Pacific Regionalism in 2014 maintained the case for regional co-operation and its importance to the countries of the region as they strive to maximise their development opportunities. This commitment is best summed up in the Framework's introduction:

> *Pacific peoples are the custodians of the world's largest, most peaceful and abundant ocean, its many islands and its rich diversity of cultures. We celebrate and draw strength from the culture and traditions, language, social values and religious*

> *freedoms and beliefs that bind citizens and communities together, providing sustenance, social stability and resilience. We acknowledge our shared responsibility for our significant terrestrial and oceanic resources, which provide livelihoods and opportunities for sustainable development. We also face significant challenges, including complex vulnerabilities, dependencies, and uncertainties that arise for countries and communities as our region changes with modernity, the processes of globalization and the damaging effects of climate change. We stand together as a Pacific region because there are significant benefits to sharing and combining our resources to leverage our voice, influence and competitiveness and to overcome geographic and demographic disadvantages.*

The principle objectives of the Framework are:

- sustainable development that combines economic, social and cultural development in ways that improve livelihoods and well-being and use the environment sustainably;
- economic growth that is inclusive and equitable;
- strengthened governance, legal, financial and administrative systems; and
- security that ensures stable and safe human, environmental and political conditions for all.

Based on these objectives, Forum Leaders will each year prioritise a limited number of regional initiatives (with no more than five, ongoing or new, to be selected at any one time) in support of deepening regionalism. The initiatives are expected to be the impetus for regional collective action that embraces one or more of the following: (i) co-ordination by establishing and managing agreed processes that facilitate regional dialogue and access to (and use of) information; (ii) co-operation by developing and committing to co-ordinated regional and subregional policies and strategies; (iii) collaboration by delivering regional public goods and pooled services; (iv) harmonisation by entering into specific regional or subregional commitments to common policies, regulations, standards and/or processes; (v) economic integration by lowering physical and technical market barriers to enable freer movement of people and goods within and among countries; and (vi) administrative/legal/institutional integration by agreeing to common rules, standards and institutions to foster and sustain integration.

Forum Compact on Strengthening Development Coordination

In August 2009, the Leaders of the Pacific Islands Forum established the Cairns Forum Compact on Strengthening Development Coordination to bring increased determination and commitment to lift the economic and development performance of the region. At the time, the key objective of the Forum Compact, implemented under the leadership of the PIFS, was to drive more effective co-ordination of available development resources from both Forum island countries and all development partners with the central aim of achieving real progress against the MDGs. This objective remains relevant today, although the focus has now shifted to the achievement of the SDGs.

To realise this objective, the Forum Compact principles were identified as:

- A recognition that broad-based, private sector-led growth was essential to achieving faster development progress and that donors should encourage the private sector, including through micro-finance and support for larger-scale private sector projects.
- A recognition that improved governance and service delivery are essential to achieving faster development progress.
- A recognition that greater investment in infrastructure would underpin greater economic development.
- An acknowledgement that country leadership, mutual accountability and mutual responsibility between Forum island countries and their development partners are fundamental to successful development outcomes.
- The need to draw on international best practice as expressed in the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action.
- A revitalised commitment to the achievement of the MDGs in the Pacific.

The Forum Compact provides for both:

- A peer review process which looks at the national systems and processes of planning, budgeting, public financial management and aid management in regard to development co-ordination; and
- An annual reporting process for development partners on their efforts to reduce aid fragmentation, ease the burden of aid administration and improve aid effectiveness, through measures such as increased use of country partner systems, multi-year funding commitments, pooled funding, the delegation of aid delivery to lead donors and collaborative analytical work.

Significantly, under the peer review process, 13 Forum island countries were peer reviewed by teams that included island country colleagues and a development partner representative (for some reviews there was also representation from civil society). In addition, both New Zealand and Australia have also opened up their systems and processes for peer review by island country and other development partner representatives. A key focus of the development partner peer review process is to allow partner countries to better understand how the policies, procedures and actions of the development partner are formulated and implemented, and to provide space for feedback on how they might be adjusted to more effectively support partner country development efforts.

With five years of learning together under the Forum Compact, partners in the region have a good idea of what is important and what can be done to improve the region's development performance:

- A simple national plan with a limited number of measurable targets that is consistent with likely national resources; that genuinely reflects political priorities and is owned and regularly reviewed by a high-level cross-government body or central agency and reported to Cabinet, Parliament and the public.

- Effective and mutually accountable partnerships with the private sector and civil society over the setting of and accounting for national priorities/plans and the means of implementation.
- Budget processes that ask public servants to specify what they will achieve with the domestic and external funds allocated to them, including a regular account of results.
- Attention to the public financial management (PFM) systems that convert budgets into actions in the most efficient, accountable and transparent way.
- Well-informed Parliamentary oversight.
- A strong central management point for all aid, preferably with close links to central budget managers, with a mandate from the country's leadership to shape development assistance in accordance with the country's needs and integrate it into the national budget.
- Responsiveness by development partners to provide aid in ways that enhance national leadership, strengthen national systems and minimise the management burden, particularly on smaller administrations.

These points are frequently described as technical or administrative in nature. However, in all cases, it is important to understand the power relationships within countries; the broader issues of governance as well as how decisions are made to allocate resources, as these all impact on the relationships that are formed and maintained with development assistance partners (PIFS 2015b).

Partly in direct response to the outcome of the Forum Compact peer review process, development partners have worked with countries, both individually and at the regional level, in an attempt to address a number of the points highlighted above. As a consequence, over the last few years there have been a range of initiatives to try and improve the quality of national and sector policy development, planning, statistical collection and analysis; as well as to provide support for a broad range of governance programmes, including national and regional interventions designed to improve the function of parliaments, addressing key aspects of gender inequality in leadership roles, anti-corruption efforts and a wide range of other activities. Most significantly, there have been efforts by the IMF through the Pacific Financial Technical Assistance Centre (PFTAC) and other partners to work with governments to bring improvements to overall public-sector financial management. This is seen as critical to encouraging development partners to use national systems and address one of the key principles of development effectiveness.

The 2010 meeting of Forum Economic Ministers endorsed the Pacific Public Financial Management Reform Roadmap and since then, with the active support of a number of development partners[9], six of the Commonwealth small island states (PNG, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) have been subject to repeat Public Expenditure and Financial Accountability (PEFA) assessments of their experiences in implementing public financial management reform. In analysing these assessments, PFTAC has noted that progress in implementing reform can be

hampered where there is not: (i) a critical mass of specific skills (accounting and audit) available; (ii) wide buy-in across government to assure fiscal discipline; (iii) strong links between policy and multi-year frameworks; (iv) adequate attention given to some issues (i.e. fiscal risk of off-budget expenditures and state owned enterprise operations) because of political sensitivities; and (v) easily identifiable solutions to complex and entrenched practice, as is often the case in the area of procurement.

While the Forum Compact continues to be seen as the key Pacific instrument for promoting development effectiveness, a number of countries have also participated in broader global efforts, particularly through the GPEDC monitoring processes. The Forum Compact and peer review process complements the GPEDC in that it adapts the principles of the GPEDC to the country context. Together they help Pacific countries identify what processes, systems and institutional arrangements are important for delivering national development outcomes, particularly the SDGs. In pursuit of the SDGs, countries' attention to SDG 17, particularly to improve systemic issues, will also complement the work of the Forum Compact and GPEDC, including contributing to the aspirations of the SAMOA Pathway.

In November 2015, UNDP and the Pacific Islands Forum brought together senior representatives from Forum island countries, civil society, the private sector and development partners to make preparations for the second meeting on monitoring of the GPEDC. The level of Pacific country engagement and participation in development effectiveness monitoring at regional and global levels has increased significantly, with ten countries participating in this second GPEDC monitoring round. The workshop recognised the difficulty for a number of the smaller island countries to successfully monitor the effectiveness of development co-operation using the GPEDC indicators – an issue of data collection deficiencies and limited capacity as seen in the MDGs reporting and already anticipated in the roll-out of the SDGs. In response, a UNDP-OECD partnership, PIFS and UN Women have indicated that they will provide support to countries to help them meet the GPEDC reporting requirement if required.

The implementation of the Forum Compact since 2009 has made a very positive contribution to improving development effectiveness in the region. It has focused attention at country and regional levels on both the political dimensions and technical aspects of development effectiveness. The Forum Compact peer reviews provided space for countries to consider with their peers how to more effectively negotiate with development partners. The Forum Compact encouraged governments to recognise the importance of them being more inclusive and transparent in their decision-making processes around development priorities and budget allocations, as well as the effectiveness of their own systems in delivering better public services for all in the community.

Despite this success, there is still some way to go before the four principles of development effectiveness are firmly grounded in the processes of the countries and are genuinely supported by all development partners in the region. In many cases, the relevant policy documents are in place and the ownership, results-based systems and inclusive approaches are understood. However, in deeper analysis, much of what

is reported is a 'thin veil of truth' with much more to be done to make sure that what is planned is funded, and when funds are allocated that programmes are actually delivered. It is also apparent that while most development partner policies and processes are considered to be in line with the GPEDC Framework and the Forum Compact itself, the reality is often less encouraging. Some development partners still prefer to operate quite independently of the national planning and budget processes or continue to not respect attempts by countries to define more clearly an engagement or reporting process for partners.

4.4 Key issues and challenges

This section covers the key issues and challenges faced in the Pacific in seeking to achieve better development outcomes for the people of the region. It is recognised that while many of the issues are most relevant at the national level and differ between countries, there are also some issues that can be considered regional in nature: because they are common to a number of countries; because a number of development partners have chosen to deliver their support from a regional platform; and also because of the significant role played by the regional organisations and the promotion of regional co-operation in the Pacific.

4.4.1 National level

The following analysis of issues faced at the national level draws on the Forum Compact peer review process, where the primary focus was on how countries plan; how they develop, manage and monitor the implementation of the national annual budget; and how the countries manage the flow of external development assistance and integrate this with other national revenue. Fiji, while not covered in the peer review process, given its suspension from the Pacific Islands Forum at the time these were conducted, is considered to have faced many of the same challenges as other countries in the region.

The Forum Compact peer reviews were intentionally focused more on the processes followed to promote development effectiveness rather than evaluating the appropriateness or otherwise of plans and policies that had been adopted to meet the development aspirations of the country being peer reviewed. It must also be underlined that many of the countries (in particular those which were subject to peer reviews soon after the Forum Compact was agreed) have already taken steps to address a number of the challenges identified. For at least one or two of the countries many of the issues are no longer entirely relevant as they have been progressively addressed in recent years. Samoa is often singled out as a Pacific island country that has made good progress in introducing a number of policies and revised systems and processes to improve development effectiveness, and others have shown better results in some areas.

As a result, the list of issues that follow do not necessarily apply in all countries. However, they have been included as they apply in at least one of the nine countries being covered in this analysis. The structure used to consider these challenges has also been adopted from the key issues identified globally as the prerequisites for ensuring development effectiveness.

Leadership and ownership of development priorities

A key issue in the majority of the countries remains their capacity and determination to take leadership (see Box 4.2) and to ensure that they are driving the national development agenda and that they are able to articulate the development priorities clearly and consistently to all country stakeholders and their development partners. Leadership in this form remains difficult to fully achieve for some countries and the reasons are often complex, including how to form an effective partnership between a recipient and development partner where both enter the negotiation based on their own cultures and customs. It is also complicated because development partners generally have their own policies, rules and procedures, which influence how they as individual partners can interact with partner countries and work with other partners. The latter can make joint programming with a range of partners, with the partner country in the lead, difficult to fully achieve.

It is also a fact that in most situations development partners have much greater access to qualified specialists and analysis capacity than countries in the Pacific. As a result, the analysis and design of projects and programmes in countries is often influenced or prepared by development partner funded technical assistance.[10] As a result, actual ownership can become blurred or distorted. In some instances, the performance indicators for programmes are established and monitored by the development partners – sometimes completely outside country procedures.

Political instability and/or a lack of bipartisan support for national development plans and strategies can have a negative impact on longer-term planning and policy formulation, with new governments bringing new agendas and priorities. Over recent years, Vanuatu has had a number of interrupted government terms that have resulted in new or adjusted plans and strategies. While not unique to Vanuatu, these situations demonstrate that a new government is likely to seek new directions or agendas (if only to ensure a differentiation from their opposition). To minimise the impact of changes of government, it is important that the longer-term development goals/intentions are

Box 4.2 Leadership and Ownership of Development Priorities by Samoa and Vanuatu

In the Pacific, Samoa and to a slightly lesser extent Vanuatu, have made the greatest progress in the region in taking strong leadership of their development processes. Over many years, both countries have progressively implemented reforms that have combined both policy and institutional changes, which have allowed both Samoa and Vanuatu to develop a series of national development strategies that have increasingly been backed by strong sector plans. The development and recurrent budgets of both countries are integrated and expenditure reports to Parliament pay attention to how effectively the national strategy intentions are being addressed. Samoa has specifically demonstrated a willingness to make sure development partners direct their support to the priorities of the country and that this support is as much as possible designed and implemented using local personnel and national systems and processes.

debated and endorsed by the Parliament, allowing new governments to change the focus on 'how' development goals are achieved but not the overall goals.

Political upheavals and natural disasters can also be detrimental to ensuring partner government ownership of the development agenda. Under these circumstances there is often increased activity by a range of development partners (international and national), with local leadership and authorities sometimes sidelined or losing overall ownership of decisions, with a subsequent lack of co-ordination and, in the case of disasters, a less than adequate response to those most needing support. The unrest that occurred in the Solomon Islands in the late 1990s, which led to the Regional Assistance Mission to the Solomon Islands (RAMSI) being in place for more than ten years has had a negative impact on local ownership and leadership of the development agenda. It is also evident in the response to the recent disasters in Vanuatu, Solomon Islands and Fiji that local administrations have struggled to effectively co-ordinate emergency support provided by a large number of partners and, in particular, to lead broader recovery efforts.

Development partner agendas can be a significant influence on how partner countries retain ownership of their development agenda. Understanding the culture and form of leadership in a country is of critical importance to ensuring that partners work together effectively. For example, a partner country's silence on an issue does not necessarily mean affirmation of the type of support being offered. While this is a difficult issue to easily identify in a negotiation process of projects or programmes, there is some evidence that in the design of some regional programmes, country participation/perspectives are often not fully considered or taken into account.

Recognition and support for planning ministries and departments within the partner government hierarchy. In some countries, national planning ministries are still considered of secondary importance to those of senior portfolios such as the Ministry of Finance and/or the Office of the Prime Minister and as a result, Cabinet attention to the national plan or development strategy is often less than optimal. Where national planning and co-ordination is not seen as a central function of government, there can be a perception that the development priorities are more fungible and that the views of senior ministries and sectors are paramount. Three- to five-year planning documents are often set aside or largely ignored once they have been completed, with sector ministries and development partners embarking on programmes that are primarily designed to attract resources rather than fall in line with the intent and priorities of the national development goals.

A lack of co-ordination between the national planning agency and sectors within a government can often lead to confusion and mixed messages about the development priorities and directions of partner countries. Under these circumstances, the flow of development assistance resources can be skewed by specific sector agency-development partner relationships and/or the specific priorities of a development partner. In some countries the presence of an effective technical adviser in a particular sector with strong links to a development partner can mean more effective budget submissions and/or development assistance requests, with the result that the development agenda of the country is 'captured' or overly influenced in this way.

The use of foreign contractors to implement or manage the implementation of development assistance projects can lead to a loss of national ownership. In such cases, the main emphasis is often on the bottom line or profit margin for the company, with the development outcome a secondary issue. Under these circumstances, technical advisers end up having a dual reporting requirement, with local supervision losing out to the needs and targets of the consulting firm. Where infrastructure projects are implemented using imported labour and materials, there are lost opportunities for the creation of local employment and skills development. There are also downstream issues of equipment maintenance and availability of spare parts. For example, there are a number of large infrastructure projects across the Pacific where follow-up maintenance has not occurred, leading to the re-tender of work in subsequent years, once again involving external development assistance.

Focus on results

A major concern continuously discussed in the region over the last few decades has been the lack of measurable and sustained progress in the small island states of the Pacific. In 1993, the World Bank (World Bank 1993) introduced the idea of a 'Pacific Paradox' as a way to explain the low growth rate in the Pacific island countries compared with other small island developing states of the Caribbean and Indian oceans, despite the same constraints (small internal markets, narrow production bases, high unit costs of infrastructure, heavy dependence on external trade, vulnerability to external shocks and natural disasters and isolation from large high-income markets) and the same advantages of high levels of basic subsistence, favourable climate, sustainable concessional aid flows and remittances.

At that time, the Bank asserted that 'the blend of customary practices and modern systems have inhibited development but has also helped provide some stability and social safety nets'. The implication was that 'culture' and 'customary practices' were critical and that it was important to not impose development models derived elsewhere but to adopt new approaches. Despite these suggestions, there appears to have been only limited work done to design programmes and implement budgets to ensure that adequate account is taken of the cultural and social situations in the Pacific.

Langi Kavaliku (Kavaliku 2005) argued that the World Bank suggestion of a 'Pacific Paradox' only exists because of the influence of the concept of westernisation, and it was important to differentiate westernisation from modernisation. He considered that the World Bank work provided a

> *telling lesson that if we do not take culture into account and understand the interplay between it and development, we cannot move as surely as we should. If we are to participate in the global society we can only do so if we are Tongans, Papua New Guineans, I-Kiribati, Fijians, and Samoans who are modern and not as modern people who happen to live in the Pacific islands.*

With many continuing to express concern about the poor performance of programme/project interventions and efforts to build capacity, greater attention is now being paid to the measures used for assessing results. This has led to: support for

increased monitoring against the MDGs; support for the increased collection and use of statistical data so that there are established baselines from which progress can be measured; greater attention to the involvement of all potential partners (internal and external) to maximise an understanding of what development priorities are paramount at any given time; support for the introduction of anti-corruption activities to avoid waste and inappropriate public expenditure; recognition that gender equality is an important determinant of development success; and increased attempts to bring the recurrent and development budgets together so that all resources available to the Government are used more effectively to achieve the development results outlined in the national development plans/strategies.

In the first few years after the global adoption of the MDGs, Pacific countries were initially reticent to adopt the eight goals and associated targets and indicators because they were considered to be driven by a global agenda, which did not relate closely enough to the situation in the small island states of the region. When the targets and indicators were tailored to the individual country situation, it was then found that there were issues of data availability and, in some cases, a lack of baselines from which to measure progress.

The regular collection, accuracy and analysis of data continue to be a major hindrance for policy-makers, planners and those designing development programmes and projects in the Pacific. For the global SDGs monitoring framework, there is a proposed set of 231 indicators to monitor progress of the 17 Goals. The breadth and depth of the SDGs will place a significant challenge on the Commonwealth Pacific small states to firstly try and ensure alignment of the SDGs with their national plans before considering localising the targets and indicators to monitor progress. The process of localising the SDGs indicators, establishing baselines, and in particular the disaggregation data requirements, will pose significant challenges and further test the already strained statistical capacity in the region. In this regard, it will be important that new measures are carefully reviewed at the country level to ensure that the targets and indicators which are selected and incorporated in plans and budgets are helpful in focusing attention on maximising development progress.

Experience in the Pacific suggests that many of the countries have grasped the importance of developing plans and strategies, as well as integrating key targets and indicators to monitor performance. However, in most countries there is still some way to go before there is a sustained capacity to ensure effective implementation of these plans and strategies. This is particularly apparent in those countries where external partners are called upon to finance the majority of the annual development budget and where the government allows the performance monitoring to become the responsibility of the relevant development partner.

Despite efforts to break down a 'silo approach' to development, there remains a strong emphasis on the design of programmes and projects that focus attention on a single sector as these are considered to be easier to manage as they can normally be housed within a specific Government ministry or department. A project, and even programme approach, may have reduced impact because it leaves aside other dimensions or fails to recognise the dynamic nature of development and/or the importance of ensuring

Box 4.3 Pacific Public Financial Management Reform Roadmap

The Pacific Public Financial Management Reform Roadmap (covers Cook Islands, PNG, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu), showcases how partners can join forces to work together with countries to progressively change processes and systems to improve public financial management (PFM). The Roadmap has had a positive impact on how countries view development effectiveness, particularly in recognising that improvements in planning and budgeting processes are just as important for how governments spend their own resources, as it is for how development partnerships operate. Development partners will use national systems only if there is effective planning and budget oversight, as well as robust procedures for financial management.

that all stakeholders are able to participate in the design and implementation of activities. The majority of development partners also continue to maintain a focus on the development of projects or one-off interventions with their own monitoring and evaluation frameworks, and management structures. Development partners usually justify the continuation of this approach because of their own requirement for accountability of funds provided or a perception that national systems are unable to effectively manage expenditure and/or provide adequate advice on the results achieved.

Although there have been efforts to strengthen budget preparation systems and the introduction of broad-based public financial management reforms (see Box 4.3) in most countries, there is only vague adherence to budgets and commitment to meeting development targets as set down in national plans or strategies. Decisions by central ministries on budget allocations are regularly seen as only indicative at sector level, with the movement of funds between budget heads a frequent occurrence and justified because of 'urgent emerging requirements'.

Inclusive partnerships

Mutual accountability and accountability to the intended beneficiaries of development co-operation, as well as to a country's citizens, organisations, constituents and shareholders, is critical to delivering results. Transparent practices form the basis for enhanced accountability.

Openness, trust, and mutual respect and learning, while recognising the different and complementary roles of all actors, are at the core of effective partnerships in support of development goals. An ongoing challenge in most of the Pacific countries is to ensure an active and participatory process in developing national plans and strategies and ways to ensure that there is real engagement with partners outside the government in the formulation of key policies. In a number of countries, there continues to be a mistrust of civil society and non-government organisations, while in some countries there is a selective approach as to which of these organisations

are consulted by government agencies when designing national and sector plans and budgets.

Working with the private sector and civil society organisations is seen as critical to ensuring development effectiveness, but in this area there remain issues of trust on both sides. There is a reluctance to be open and to share ideas, and a lack of genuine commitment to realistic consultations.

For small administrations, understanding and meeting the programme design and reporting requirements of different development partners can be a particular burden. The adoption of national systems by development partners is an obvious solution but can be difficult to achieve fully. As a consequence, there remains a need for development partners to work together in each country situation with the relevant government to help minimise the complexity of systems and processes to help address this concern.

In all countries, there is a need to strengthen the links between national, regional/provincial and village or community levels of governance (see Box 4.4) to ensure the development priorities at the national level adequately reflect the aspirations of these other levels of government. It is also important that before a national strategy is agreed that there is an assessment made to ensure that the necessary capacity exists or can be developed at all levels of government to ensure effective implementation and maintenance of activities agreed in national plans/strategies.

Box 4.4 The Civil Society Support Programme in Samoa

In many of the Pacific countries, there remain difficulties in effectively building the capacity of civil society so that it can play a more effective role, as a partner with government in designing, managing and delivering development assistance initiatives. Recognising this, Samoa has put in place a Civil Society Support Programme (CSSP) where the Government is working alongside a number of development partners to ensure civil society organisations (CSOs) access assistance that brings social economic benefits; builds capacity in the community; and strengthens CSOs' ability to advocate during community consultations on government policy and legislation.

Development partner support is provided under funding agreements that are clear and flexible, with the requirements for parties spelt out clearly. Partners have aligned their reporting requirements using the six-monthly report template for CSSP. This has avoided delays in endorsing reports and CSSP reporting directly on what is expected. The current template also allows the CSSP the liberty to determine budget priorities that are then endorsed by the Steering Committee. This flexibility also allows for re-programming when needed.

A challenge faced by all countries is to make sure that there is effective co-operation and co-ordination across and between sectors in the implementation of the strategy. This is particularly important when designing and implementing programmes so that there is a detailed analysis and reflection of the gender dimensions, environmental impact and other cross-sectoral aspects. Samoa has attempted to improve this aspect of its planning through the formation of a number of sector working groups where issues such as gender, youth, disability and the environment are considered as part of the planning and implementation process.

Over the years, a number of agencies (UN, SPC and others) have attempted to support gender mainstreaming and/or gender budgeting efforts in planning and implementation at sector level. Unfortunately, in most instances success has been limited. All countries now place a greater level of importance on the role of women and most have established a Ministry of Women or a division within a ministry with such responsibilities. However, most are under-resourced and have only limited skills to ensure gender mainstreaming throughout government. In all the nine Commonwealth Pacific small states, non-government organisations often supplement the role of government, implementing programmes designed to strengthen the role of women and girls, and as such are often leading the drive for change in these areas.

Accountability and transparency

While work has been done in the region to strengthen the role of parliaments and statutory authorities (such as audit and anti-corruption) to ensure effective oversight of the work of the government and/or the executive, there remains a challenge in some countries with frequent changes of government and/or leaders. In some cases, there are inconsistent parliamentary timetables, a lack of regular and effective operations of the public accounts committee and interruptions to the work of the office of audit and anti-corruption agencies where they are in existence. The parliamentary process is expected to allow all national partners and the broader community to be kept informed of government policies, plans and programmes.

Parliaments and civil society, including independent media and audit and evaluation offices and local and regional government authorities and offices, each play distinct and essential roles in increasing accountability and participatory governance (see Box 4.5). An enabling, democratic environment, including the requisite legislative and institutional frameworks, mechanisms that inform, consult and involve citizens, and civic education are essential to foster social accountability of ODA spending and the national budget.

A consistent and inclusive approach among government ministries and public-sector agencies is also problematic in some countries, where central planning and finance ministries often propose policies, design programmes and implement budget revisions with limited consultation and measures to canvas a wide range of views. This is most apparent where budget controls are not decentralised, limiting sector responsibility for managing expenditure and performance.

Given the significant levels of development assistance that is provided to Pacific island countries it is critical that increased efforts are made to ensure that the partnerships

Box 4.5 Good practice: Parliamentary oversight of RAMSI in Solomon Islands

A number of countries have made progress in raising the level of parliamentary oversight of the development process. This has come about primarily through development partner support for legislatures in a number of countries (Fiji, PNG, Samoa, Solomon Islands, Tonga) through which the Speakers' and Clerks' offices were provided with support.

One of the key examples of parliamentary oversight was the review of the Regional Assistance Mission to Solomon Islands by the Foreign Relations Committee of the National Parliament. This involved comprehensive community consultations across the country and written submissions from all interested parties including the RAMSI Office itself. The inquiry was the first formal review undertaken by the National Parliament of the Solomon Islands. It was an immense undertaking, without parallel for the Parliament, extending over almost one and a half years and involving 35 public hearings and hundreds of witnesses across the country. A report by the Foreign Relations Committee entitled Inquiry into the Facilitation of International Assistance Notice 2003 and RAMSI intervention was submitted to the Parliament in November 2009.

between the country and the development partners are managed in an open and transparent way and are seen to be focused on the highest priorities of the country and not of the development partner or partners. Achieving this in a realistic way is often complicated by the difficulty of developing a partnership between at least two parties, where one is the funder and the other is the recipient. It can also be complicated when partners have differences over how funding or technical assistance should be provided, managed and monitored for performance.

A number of development partners use national systems in selected partner countries, for direct budget support or more often sector budget funding. However, the majority of the Pacific island countries continue to lack the capacity to set up national budget and finance systems that provide adequate assurances to the development partners. Direct budget support is relatively new in most countries and is connected to a policy framework with agreed triggers and risks. Sector-wide support, where partner funding is provided through the government system, based on a joint agreement over areas of expenditure, have been in place for some time and are considered to be examples of good practice. In all cases there is a need for open and transparent communications between the development partner and the government. It is important to respect national priorities and benchmarks for measuring achievement.

In June 2014, a number of development partners (Australia, European Union, New Zealand, World Bank, ADB and PFTAC) agreed to develop a set of 'good practice principles' for the design and implementation of budget support in the Pacific.

The principles were developed in consultation with a number of Pacific partner governments and are now known as the Multi-Donor Budget Support (MDBS) Good Practice Principles:

- A joint policy matrix and single policy dialogue mechanism.
- Strong government ownership of supported reforms.
- Supported policy actions address critical constraints to development progress.
- Policy matrices with a small number of substantial reforms.
- Technical assistance provided to support actions in the policy matrix.
- A medium-term perspective.
- Government and donors share a clear understanding of objectives of supported reforms.
- Balance between flexibility and predictability.
- Adequate time and resourcing for policy dialogue.
- Shared analysis to improve dialogue.

The principles are intended to capture what has been found to work best when developing and implementing MDBS programmes and will guide the future actions of development partners in working with Pacific countries. This is so that lessons do not have to be relearned and positive impacts can be maximised.

4.4.2 Regional level

As indicated earlier, the Pacific has taken a number of very concrete steps at the regional level to try and bring a greater degree of co-operation and co-ordination in the Pacific. This is considered a positive way to work with each other and support programmes of benefit to the region. Regional co-operation is also seen as important for ensuring solidarity on issues of concern to the region and as such it also strengthens Pacific positions in international fora. It has also given the Pacific island countries access to a range of technical advice and programmes promoting regional co-operation in selected areas and/or technical advice and support at individual country level.

Issues common across the region

Any attempt to identify issues that are common across the nine countries is difficult given the significant differences that exist between them in terms of such issues as: level of economic development; availability of and access to natural resources; strength of governance structures; and strength of human resource and aid management capacity. However, it is clear that many of the countries continue to struggle to maximise their development potential. All have endeavoured to put in place development planning tools but struggle to ensure effective implementation of these plans and strategies or to ensure that development partners follow the strategies as defined locally. In some

of the smaller countries, there remains a strong reliance on external support to design national and/or sector strategies and plans. As a consequence, local counterparts often feel little ownership or commitment to monitor implementation.

A lack of data and analysis as well as a real and sustained commitment to building adequate databases and using data for comprehensive analysis, policy formulation and planning is evident in most countries and this has led to inadequate identification of targets and indicators in plans and strategies and limited opportunities for effective monitoring and evaluation. There is also clear evidence that countries often feel overwhelmed by the number of targets and indicators that have been developed internationally for measuring development progress. Many have accepted the many suggestions from global and regional partners to adopt a range of targets and indicators for which there is little available baseline data or capacity to collect and analyse data to effectively measure progress in plans and strategies.

Until the last few years, efforts to address gender inequality have been limited or largely unsupported in most Pacific island countries. There is no shortage of 'commitment on paper' at regional and international level by Pacific island governments but this has generally not been adequately reflected in the policies and programmes at national level. As a consequence, while national plans and strategies may make reference to the need for greater support for the empowerment of women as agents of change; the importance of eliminating gender discrimination and violence; the need to integrate gender perspectives into sustainable development; and promoting equal access to education, health and work opportunities, the level of follow-through and implementation with appropriate resources is often lacking and left largely to underfunded civil society organisations. Unfortunately, this situation is evident in all countries but most prevalent in PNG and Solomon Islands. Bilateral partners, regional organisations and UN agencies have been supporting efforts to strengthen regional and national responses to this issue but again these efforts are often hampered by a lack of resources (particularly in the case of the regional organisations and UN agencies) and prioritisation by governments generally.

Programmes delivered from a regional platform

For a number of development partners there is a preference to deliver support in the Pacific from a regional platform. This can be seen in the number of bilateral partners that have developed regional programmes directly under their management or are delivering them through a regional or international organisation. The decision to deliver resources in this way is usually because of:

- Sensitivities or a perceived lack of national commitment for a development issue. A regional intervention allows for issues such as anti-corruption, human rights and gender equality to be promoted regionally as national support for change is built over time;
- Economies of scale and scope, which is particularly relevant in the Pacific where distances, small populations and the cost of doing business combine to make regional implementation more efficient;

- An understanding that there already exists within the regional institutional architecture established channels and capacity to support programme implementation.

During the Forum Compact peer review process and in other regional fora a number of concerns are often raised when regional programmes are discussed with Pacific island countries. These can be best summarised as follows:

- A lack of ownership by individual countries over the design of the programme or the way it either impacts or is delivered at country level;
- Often a lack of understanding of how the regional programme is positioned vis-à-vis national development efforts. While there may be a better understanding at the relevant sector level, this is sometimes not effectively communicated at the national level so that the expected outcomes can be captured as part of the implementation of the national plan/strategy;
- Regionally delivered programmes are often most responsive to global commitments or those of the particular agency involved and are not adequately tailored to ensure effective delivery in a Pacific context;
- A lack of transparency about the magnitude of resources or how the resources are to be utilised; and
- Perceptions of inadequate collaboration between partners with the potential for duplication and/or overlap of objectives.

Role of regionalism and regional organisations

The Pacific island countries have a long history of working together as a region, with a strong network of regional organisations promoting regional co-operation and regionalism. However, this has also led to a growing list of issues that are seen as priorities for the region or groups of specific countries within the region, with the consequent result that the list has become unmanageable and not always focused on what is considered to be truly regional. As discussed earlier, in establishing the Framework for Pacific Regionalism in 2014, the Forum Leaders made the case for regional co-operation and its importance to the countries of the region. In terms of development effectiveness and co-ordination, the Framework is expected to strengthen the focus, role and effectiveness of the work undertaken at the regional level. It is intended to avoid a 'shopping list' approach to identifying what activities should be pursued at regional level while recognising that there is a limit to what can be achieved regionally, with most development effort still required at individual country level.

The identification of the regional integration priorities through the Framework for Pacific Regionalism commits the Pacific Islands Forum and its stakeholders to advance beyond regional co-operation towards deeper forms of regional integration and creates mechanisms to enable leaders to better prioritise issues. Although the Framework has only been operational since 2015, with five priorities agreed by leaders in that year, it is a clear example of how the region is seeking to learn from the

Pacific Plan and build on the ideas initiated then to focus attention on what countries can do together as partners to progress work in areas where regional collaboration is seen to maximise the benefits for those countries which are involved.

The growth of regional organisations and suggestions of mandate overlap has been at the centre of debates over the effectiveness of the regional architecture and its contribution to sustainable development in the region. As members of these organisations, the island countries and their development partners have sometimes questioned the impact of the work done at the regional level and in particular, how effectively it is linked to the specific priorities of individual countries. In some of the smallest countries (Tuvalu, Kiribati and Nauru), the resources available to them from the various regional organisations and other regional programmes can be significant in terms of their national development budgets. However, for some of the larger countries (PNG and Fiji), the activities and national impact of the regional organisations are considered far less important. In all cases, there is a general concern that significant resources appear to be used in running these organisations, limiting what is then spent at country level.

In some cases, there is a perception that regional organisations are competing with each other for resources and the capacity to deliver programmes. This appears to happen in situations where more than one agency is involved or considers it has the mandate in the same or a similar development issue. However, it can also be the result of effective resource mobilisation by a particular organisation or the emergence of a new management team in an organisation where the programme priorities shift. It may also be partly due to the fact that the regional organisations have different governing bodies and relationships with their respective development partners. As a consequence, regional organisations have different priorities based on what the respective governing body decides. The interface between the way governing bodies make decisions on mandates linked to resource allocation, is a key focus of an ongoing analysis of governance and finance study, commissioned by the Pacific Islands Forum Leaders in 2015 and co-ordinated by the Forum Secretariat. Central to this work is recognition that all CROP governing bodies consist primarily of the same membership and their mandates overlap, which is also a reflection of the nature of internal relationships between government central and line ministries.

The CROP was established to try and address these issues of co-operation, co-ordination and definition of mandates. However, many of the perceptions outlined here continue to persist.

While specific attention has been given to regional co-operation involving all countries in the Pacific, there has also been continued interest in subregionalism, where a smaller number of countries have formed specific groups with a more limited membership. These arrangements enable more contextualised and focused approaches, allowing the promotion of more nuanced benefits for members and the setting of targeted priorities and results to better influence and mobilise external resources. Subregionalism provides the opportunity to recognise the political, economic or social concerns common to the group, such as those subregional groupings formed by geography (Melanesian Spearhead Group, Polynesian Leaders

Group and Micronesian Summit); by thematic or economic interests (Parties to the Nauru Agreement) and by specific vulnerabilities (Smaller Island States of the Pacific Islands Forum).

4.5 Despite progress, some gaps remain: Looking to 2050

This section highlights remaining gaps to be addressed in the existing national and regional policies and programmes to more strategically address the challenges outlined in the previous section. These gaps also highlight the considerable differences that exist between the nine Commonwealth Pacific small states. As a consequence, in considering the possible scenarios for where the region might find itself in 2050, it will be important to address these gaps but also understand how development effectiveness responses will need to be tailored to address individual country situations.

The potential scenarios for where the region might find itself in 2050 can be broadly described as:

1. A deterioration in quality of political governance, a breakdown in partnerships, reduced support from development partners and a significant lack of progress in the achievement of the SDGs and opportunities for building economic, social and environmental resilience in the region.
2. A status quo situation where there continues to be political instability and a patchy response to sustainable development in most parts of the region.
3. A transformation at both national and regional levels of governance institutions, processes and systems; economic, social and environmental management and effective regional co-operation. All of which lead to a region that has been described in the Vision for the Framework for Pacific Regionalism as 'a region of peace, harmony, security, social inclusion, and prosperity, so that all Pacific people can lead free, healthy, and productive lives.'

There are a few concerns in scenario building and making predictions for 2050. The first concern is that if the region is going to make real progress, with all its people benefiting (in line with the commitment that 'no one is left behind'), then it will be important that all nine countries are seen to prosper. However, given that the majority of the region's population is in PNG, where their MDGs progress by 2015 was well behind much of the rest of the region, then the achievement of economic and social progress that brings benefits for all Pacific people by 2050 will require much greater and more rapid progress to be achieved in PNG compared with the other countries in the region. Despite its size and relatively resource-rich economy, PNG has found it difficult to maintain stable and consistent leadership and, therefore, economic progress. The other Melanesian countries of Solomon Islands, Vanuatu and Fiji have all faced both political unrest and recent natural disasters, interrupting progress.

Kiribati and Nauru, as the two Micronesian states, have had mixed development results. Kiribati continues to face population growth issues and complexities of

supporting a population scattered across a number of islands in the group, while Nauru continues to face political unrest and difficulties adjusting to a post-phosphate mining period and long period of poor public financial management and waste. In other parts of the region, and in particular in the Polynesian countries, MDGs progress has been more consistent, mainly because of their relatively stable governments and small populations, making service delivery a little easier.

A second concern is how to deal with the unpredictability of countries facing an increasing occurrence of natural disasters and/or the full impact of sea level rise and climate change. These issues, along with civil and political instability, are impossible to accurately predict and while the latter can hopefully be more effectively avoided if other steps relating to governance and development effectiveness are appropriately implemented (and even these are not always entirely in the hands of national governments), natural disasters can set back development agendas for years. In looking at the recent experiences following the floods in Solomon Islands, the cyclone in Vanuatu and the regional intervention (RAMSI) in Solomon Islands it is also clear that development partner assistance has often unintentionally undermined national capacity and, in the case of RAMSI, where the task has been much longer, resulted in a loss of ownership and leadership of the development processes.

A third issue is the likelihood that even by 2050 a number of the Commonwealth Pacific small states (for example, Tuvalu, Kiribati, Nauru) will remain highly dependent on external assistance for their continued existence. This means that while every effort should be made to maximise the growth and effective use of national revenue options, development partner support will need to continue and be provided in accordance with the basic principles of development effectiveness.

A fourth issue relates to the future of regional co-operation and the role of the current regional architecture, because the implementation of the Framework for Pacific Regionalism foreshadows the need for the support, commitment and ownership of all Pacific people, including governments and administrations, civil society organisations, private sector representatives, regional organisations, development partners, media, and other key stakeholders. As has been evident over the last 20 or more years, there have been differing levels of commitment and support among countries for regional co-operation and integration. There have been a number of reasons for this, but as has been discussed, the description of how Forum Leaders embrace regionalism[11] is in reality not always the actual situation in countries.

In recent years, we have seen Fiji remain outside of the Forum Leaders meetings, the establishment of the Pacific Islands Development Forum (PIDF), a stronger commitment to subregional groupings and often, in developing partnerships with the rest of the world, an increasing emphasis on the promotion of national interests first. It is also clear that regionalism is probably more critical to countries like Kiribati and Tuvalu than to others and subregional groupings built around a specific issue – political, economic, social or environmental.

Against this background and the obvious challenges that exist for the region, there are a number of issues that can be addressed more consistently or more robustly

to help ensure the region can go beyond the status quo and, by 2050, begin to see some realisation of the vision of the Framework for Pacific Regionalism. In terms of development effectiveness, some of the issues that remain to be addressed more consistently are set out below.

4.5.1 Beyond the rhetoric

The Forum Compact peer review process has been an effective 'inclusive and mutually accountable learning tool', involving Pacific island countries working with each other to identify country-specific measures to strengthen development effectiveness. However, it has focused largely on processes, structures and systems to strengthen the way development plans and strategies are designed and managed. It has not been a review of how countries have actually performed in meeting their development priorities or how the institutional arrangements have worked to maximise co-operation and inclusive development that addresses issues such as gender equality. Taking the peer review process to the next level would involve south-south co-operation, combined with integrated technical assistance to ensure improvements in actual development outcomes and enhanced living standards for all in the respective country.

4.5.2 Improving the availability and quality of data to better monitor development strategies

The Forum Compact review process identified the importance of developing national plans and strategies that have a realistic set of performance indicators with baselines and realistic milestones. Linking national strategies to strong sector and corporate plans and directly to the budget process is essential if there are to be significant improvements in development effectiveness reporting and increased levels of satisfaction about the expenditure of development resources, whether from national sources or external development partners. As already discussed, a key constraint in the region continues to be the collection and maintenance of comprehensive datasets, as well as limited capacity to undertake proper analysis. This situation points to capacity gaps and a lack of commitment to ensure that national statistics offices are well resourced, as well as limited capacity in planning and sector ministries to undertake the necessary analysis prior to the development of policies and programme interventions.

4.5.3 More inclusive policy formulation and development of plans

Despite the feedback given during the Forum Compact peer reviews, there remains uncertainty about how truly effective the consultation process has been in the national planning and review processes. Almost without exception, partner countries report that civil society and the private sector are included in the consultation process in the design of the national plan or strategy. However, the style of consultation is seen by some to be simply 'information sharing' sessions or restricted in scope and time to limit the sharing of ideas and suggestions from a diverse group. In many cases, the consultation with those outside of government occurs only at the time of drafting of the policy, plan or programme, with little follow-up or feedback that would

allow the civil society and the private sector to have a more consistent engagement. A key concern will be to ensure that non-government agencies can maintain their independence and are able to provide unfettered advice.

4.5.4 More effective co-ordination at national levels

The 2030 Agenda for Sustainable Development draws attention to the important roles that must be played by all stakeholders, including governments, private sector, civil society and development partners, if the SDGs are to be achieved. It is also recognised that all 17 goals are integrated and indivisible, and if they are to be effectively implemented it is important that there is a real commitment to design and implement cross-sectoral interventions. Through the processes developed to implement the MDGs, all of the Commonwealth Pacific small states have established cross-sectoral taskforces or committees, whose membership goes beyond government ministries. However, there remains a need to strengthen the roles and responsibilities of these taskforces or committees as they are now being refocused on SDGs implementation.

4.5.5 Greater focus on issues of gender

The Pacific island countries continue to face significant challenges in ensuring progress on gender equality in terms of the effective participation of men and women in country leadership and in access to economic opportunities. It is also a region with a very poor record on gender-based violence. The lack of progress on these issues is well recorded and has led to a number of regional commitments to try and address the issue, including the establishment of a ten-year regional funding commitment from Australia to support national and regional efforts.[12] Transforming regional commitment into strong government leadership and efforts at the national level remains problematic in the majority of the countries.

4.5.6 Regional co-operation which delivers results

The Framework for Pacific Regionalism is only in its second year of implementation and was the result of an extensive review and consultation process on the performance of the Pacific Plan. As such, it is premature to suggest how the Framework process might be made more effective. However, in the area of regional co-operation, there is clear evidence that despite the significant resources that are directed by external partners to the operations of the regional organisations, there remains concern about how effectively these organisations complement and/or support the achievement of better development outcomes at the national level. Making the regional co-operation efforts more useful is hindered by a lack of sustained ownership at the national level.

In the past there have been a number of studies and recommendations made on how the architecture and operations of the Pacific regional organisations might be enhanced. Some of the recommendations have been accepted and progress made in both the rationalisation of roles and responsibilities within organisations, as well as in more broad-based restructuring and merging of organisational responsibilities. However, more widespread reform remains problematic because the views and considerations of each governing council are not necessarily the same and because

the members of the governing councils or their associated management committees fear a loss in access to resources from regional programmes if they are merged with others or managed by an alternative organisation.

4.5.7 Ensuring the best technical advice

The Commonwealth Pacific small states continue to rely on external technical assistance to support the development planning and implementation process. The choice and management of technical assistance will be critical in order to strengthen national ownership of the development process and address ways to ensure that the development strategies reflect key economic, social and environmental considerations and also take account of the specific island country context. The involvement of external technical assistance is only helpful if there is a willingness to understand the country context and be able to listen to the views and opinions of locals.

4.6 Recommendations

The following are recommendations and proposed strategies for improving development effectiveness and addressing the gaps outlined. As highlighted, there remain a number of challenges, both human and natural, that will continue to impact the region for the foreseeable future and complicate economic and social progress for the small island states of the Pacific. Improved planning and policy-making, with better definition and monitoring of results, along with stronger partnerships and commitments by development partners, will not solve all of these challenges or ensure the region meets the Vision of the Framework for Pacific Regionalism by 2050. However, the following recommendations, which for consistency have been grouped according to those proposed for national action and those proposed for regional or international level action, are expected to help prevent the region from stagnating or slipping back into continued political instability and deteriorating partnerships with the rest of the world.

All of the recommendations point to the need for a continuation of capacity-building efforts that should focus as much on the institutional arrangements for promoting change and sustainable development as they do on the skills development of individuals. As a consequence, it is proposed that increased attention be given to the preparation of guiding notes or toolkits to ensure that there is consistency in the institutional arrangements, policies and processes, as well as guidance to new staff, even as inevitable changes occur within the relatively small administrations. Such toolkits would need to draw on regional and global experience and lessons learned, while reflecting current thinking, including the processes proposed for mainstreaming the SDGs, as well as the necessity for effective and integrated follow-up to the SAMOA Pathway, Framework for Pacific Regionalism and other important commitments linked to the promotion of sustainable development.

The majority of the recommendations recognise that while the governments must lead implementation, the support and commitment of development partners remains critical to their success. The Global Partnership indicators (Appendix 4.1) provide governments and their partners with a way to measure the effectiveness of their

partnership arrangements, as they seek to take forward these recommendations in the national context.

4.6.1 Recommendations to improve ownership of development priorities

National-level actions

Design and implement a policy and planning formulation process that considers macroeconomic and structural policies and local context, and addresses their public-sector management impact. This recommendation is primarily focused on providing effective capacity-building support that nurtures local capacity and takes fully into account the culture and traditional values of the country, as well as the ethnic and regional differences that exist. The technical support should give specific attention to climate adaptation, better risk assessment, enhanced responses to natural disasters, gender equality and better recognition of the role of women in development.

Address the continuing concern in most countries regarding the lack of data, as well as the limited capacity to effectively analyse data to ensure evidence-based decision-making and policy formulation. While there are ongoing efforts to strengthen data collection in the region, principally through regional programmes implemented by the Secretariat of the Pacific Community (SPC) and sector-based work by a range of development partners, there remain concerns about the quality and availability of data that can be used by policy-makers and planners to better inform development initiatives. This issue was highlighted in monitoring the MDGs and remains a significant limitation, even as countries design new or revised national strategies and sector plans that reflect the SDG targets and indicators.

Implement a set of comprehensive institutional strengthening programmes. While building the capacity of personnel is important, it is also critical to undertake comprehensive institutional building of the central agencies of government and focus on both their internal operations and their interrelationships with each other. It is also important to recognise that it is a sequenced approach and that progress is monitored to identify any 'road bumps' that might emerge elsewhere as a consequence of the changes implemented in policy, institutional or operational areas. An example of this emerged in the 1990s implementation of the institutional strengthening programme in Samoa's Treasury, where it was found that progress in making changes led to a requirement that changes were needed in other areas of the government, including the role of the Public Service Commission. As the ADB capacity development study (ADB 2008) concluded, where the core functions of government are weak, as they have been in many Pacific island countries, the delivery of public services (such as security, justice, basic education and basic health services) has also been weak. Just providing additional funds has rarely been able to strengthen and sustain that delivery. Strengthening core government functions is a prerequisite to strengthening state operations and to restoring and expanding private markets.

Implement a strengthened consultation process of good governance as promoted through the SDGs and which addresses ways to improve the relations between

the government and its constituents. Engagement with civil society and the private sector is essential, as is building trust and confidence. Opportunities to participate in building and rebuilding relations between the government and civil society, between the main urban centre and rural areas or outer islands, and between the formal and informal sectors are important in building a more inclusive society.

Strengthened oversight of government performance is necessary and should include policies to ensure gender equality and that development programmes are inclusive of all members of the community. This will include a stronger, more effective public accounts committee; regular reports from the auditor that are submitted and considered by Parliament; and more effective anti-corruption policies. For countries such as the Solomon Islands, where the National Strategy is simply tabled in Parliament upon approval by the Cabinet, the process could be enhanced and more inclusive if it included submission of a draft Plan or Strategy to Parliament with adequate time provided for debate at both Committee levels and within the full Parliament.

Develop a monitoring process for the national strategies/plans that involves civil society and/or national private sector organisations. This could include a nationwide tender process to select organisations or individuals to conduct joint annual reviews and performance reports with relevant government agencies using established indicators that are then included in an annual report by the government to the parliament. Alternatively, it could be a joint review process, involving government, non-government organisations and/or a development partner, of a national plan or strategy, with the findings of such joint reviews discussed within a broad stakeholder forum in the country. This approach would allow the government to strengthen its partnership with development partners, civil society and the private sector. It would also help build local capacity and commitment to the development priorities of a country, both inside and outside of government.

Strengthen co-ordination within governments to ensure that all stakeholders, government, civil society, private sector and development partners are fully involved in the planning and budgeting processes of each country and are given the necessary support to ensure accountability and transparency in the decision-making of governments. It should also involve new and more effective approaches that promote horizontal and vertical co-operation and co-ordination to ensure that development initiatives reflect the three aspects of sustainable development (economic, social and environmental) and promote strong links between sectors and between village, provincial and national levels of government. Most governments had set up national taskforces or committees to co-ordinate monitoring of their national strategies and plans, including the MDGs. While these committees remain relevant, including for monitoring the SDGs, there is a need for most of these committees to have stronger terms of reference, particularly to be more active in monitoring plans and budgets.

Regional-level action

Over the last few years, the Pacific Islands Forum Secretariat, with the support of CROP agencies, the United Nations organisations and other development partners,

has been seeking to bring a greater level of co-ordination in the development partner support provided to Pacific island countries. This led to the establishment of a National Sustainable Development Strategies Partnerships Group (NSDSPG)[13] at the SIDS Conference in Samoa in 2014. The primary goal of the NSDSPG is to help Pacific island governments improve their planning and budgeting, while embracing nationally tailored SDGs, key elements of the Samoa Pathway and the Framework for Pacific Regionalism. In addition, the Secretariat of the Pacific Community regularly convenes meetings of senior planners and statisticians in the region, to guide regional support for improving national-level statistical databases, that are feasible and sustainable, but which also respond to the needs of policy-makers and planners.

Against this background, it is recommended that regional-level actions focus on making sure the NSDSPG is inclusive of all development partners and that future support to strengthen national ownership of the development process is consistent and well co-ordinated. Through this process it offers opportunities for building on aspects of the Forum Compact of sharing lessons learned and promoting south-south co-operation and knowledge management. Critical to the success of this recommendation is agreement within governments of which an agency or agencies are responsible for leadership and implementation of the various policy objectives. The NSDPG also offers opportunities for drawing on lessons from other regions, which can be facilitated by the Commonwealth Secretariat.

4.6.2 Recommendations to better focus on results

National-level action

Efforts continue to be made in all countries to ensure that the development priorities are clearly reflected in a fully integrated national budget (combined recurrent and development expenditure). Most countries have adopted a single integrated budget (apart from the Solomon Islands) and a number have moved to adopt a programme budgeting approach (including Samoa, Tonga, Tuvalu, PNG and Vanuatu). However, there remains more to do to ensure that the budgeting process is fully reflective of the costs of development programmes. National budgets do not fully capture much of the funding provided by development partners; nor the contribution of civil society organisations in areas such as health, education and environmental protection; nor do they identify the operational or maintenance costs of development projects.

If an integrated budget is produced it will mean that the full cost of all development activities is captured and this will ensure that development partners increasingly use national systems. Where there is still resistance to the production of a fully integrated recurrent and development budget, it is important that the national development strategy and, more specifically, the sector plans, set out the total contribution of each government ministry and agency, as well as contributions of the relevant civil society groups and the private sector. This will allow for a full disclosure of the costs of implementing a programme.

Even when a partner is unable to provide support directly using national budget systems, it is important to be able to measure the results achieved, as well as

understanding the contribution of all parties. Standalone projects or programmes will usually only have a short-term impact, unless the implementation and longer-term follow-up are fully integrated into the responsible ministry or agency at the time of design and the full cost of sustained implementation understood.

Promote the full integration of the SDGs by tailoring the targets and indicators to ensure they are the most effective measures for monitoring national strategies/plans, with progress reports produced in line with the monitoring and evaluation processes already developed. It will also be important to ensure that the SDG 17 targets are selectively reflected in national development co-operation policies as they address the key elements of: financial resources and investment; north-south, south-south, triangular, regional and international co-operation; effective and targeted capacity-building; trade; and a range of systemic issues. It will also be essential that the ongoing issue of a paucity of data combined with a lack of capacity in countries for effective analysis and use of accurate data for policy-making is addressed, including through the existing Pacific Statistics Steering Committee.[14]

4.6.3 Recommendations to enhance inclusive development partnerships

National-level action

To help overcome the perceived mistrust between governments and other national stakeholders (non-government organisations and private sector), it is recommended that there be more frequent and well-organised consultations (and not simply information sharing sessions) between governments and non-government organisations, and that these consultations respect the roles of all partners and the contributions each make to the development process.

Despite efforts to increase the participation of civil society and the private sector in the planning and implementation of national and sector strategies, it is clear that more needs to be done. In doing so, it is important that the degree of mistrust and/or apprehension among both government officials and non-government organisation representatives is overcome. This is critical to develop a more realistic partnership between the parties. This will only be possible if both sides better understand and respect the role of each other and that there are more open lines of communication developed on how the development priorities of the government are decided and how these priorities are to be achieved. While non-government organisations are often successful in directly mobilising their own resources from development partners or from overseas affiliates, the information on the programmes that are implemented is often inadequately acknowledged or reported by the government.

Regional/international-level action

The Forum Compact and peer review process, a good practice example of south-south co-operation is continued and expanded to take forward the value of Pacific island countries working together and learning from each other, including the value of development partners, regional organisations and civil society working together to

promote more effective processes, systems and decision-making for the achievement of enhanced development results and outcomes. This will include a continued rollout of public financial management reforms and ongoing confidence building among development partners to embrace national systems and provide increasingly untied budget support. It would also be an opportunity for countries to learn from each other on how to more effectively integrate international and regional commitments into national development agendas. The Commonwealth in collaboration with PIFS, the UN and the regional organisations could promote this idea as a part of the follow-up to the SAMOA Pathway, reflecting the value of all SIDS working together.

4.6.4 Recommendations to advance transparency and accountability to each other

National-level action

There is a need to **strengthen the planning function beyond writing of plans** to include: policy formulation and presentation of options; public finance; public service structure and focus; and rules and regulations for increased private sector development and NGO contributions. It is also vital that the plans and the associated budgets can be monitored and reported on in a transparent and accountable way. This will only be possible if effective indicators are identified, data are accurately collected and baselines are established to allow monitoring of performance over time.

Design and implement context-specific budget and aid management information technology solutions that allow for better collection and analysis of revenue and expenditure data to monitor more effectively the achievement of results against the priorities of the national and sector strategies and plans. It is important that information technology solutions are not overly complicated; are easily maintained; and are effective as monitoring and reporting tools. Where this has not been the case in the past, systems have languished because data providers lose enthusiasm and reports have either not been produced in a timely manner or have lacked complete data from which sensible conclusions can be drawn.

Regional-level action

Develop a **cultural sensitivity training programme for technical advisers** to ensure they fully understand the cultural and social conditions of working in the Pacific and together with Pacific island counterparts are able to prepare draft policy and legislation and design programme interventions that carefully take account of country context. The Commonwealth, in close collaboration with the Pacific Islands Forum Secretariat, could implement this recommendation.

Reconsider the current regional organisation architecture and with these agencies consider how their roles and responsibilities in the context of the Framework for Pacific Regionalism can remain focused on promoting regional co-operation and/or deliver support at country level that responds to national development priorities. This is an area where the Commonwealth could be involved and share the experiences of regionalism from the Caribbean and Africa.

Notes

1 This chapter benefited from valuable comments from the Pacific Islands Forum Secretariat (Alfred Schuster) and the Commonwealth Secretariat (Resina Katafono, Denny Lewis-Bynoe, Wonderful Hope Khonje and Ahmed Ali).

2 The Fourth High-Level Forum on Aid Effectiveness, held in Busan, Korea, in 2011 under the auspices of the Organisation for Economic Co-operation and Development (OECD). The Forum forged a new global development partnership that recognised the role of a broad range of state and non-state actors. It focused attention on the need to increase and reinforce development results and to leverage and strengthen the impact of diverse sources of finance to support sustainable and inclusive development, including taxation and domestic resource mobilisation, private investment, aid for trade, philanthropy, non-concessional public funding and climate change finance.

3 The Pacific Islands Forum includes the nine Commonwealth Pacific small states plus Cook Islands, Federated States of Micronesia, Republic of the Marshall Islands, Niue and Palau.

4 Extract from the Pacific Islands Forum Secretary-General's opening speech at the 1993 Pacific island countries/Partners Meeting, Suva Fiji, April, 1993.

5 'What we've learned about development in Pacific island countries', Report of the What Can We Learn Project, 2012-2013.

6 There are currently eight regional organisations: Pacific Islands Forum Secretariat (PIFS), Secretariat of the Pacific Community (SPC), the Pacific Islands Forum Fisheries Agency (FFA), the Secretariat of the Pacific Regional Environment Programme (SPREP), the South Pacific Tourism Organisation (SPTO), the University of the South Pacific (USP), the Pacific Islands Development Programme (PIDP), and the Pacific Power Association (PPA).

7 Formerly called the South Pacific Organisations Coordinating Committee

8 In 2005, Forum Leaders endorsed the 'Pacific Plan' that was described as a comprehensive document that set out how countries, through promoting and committing to the true sentiments of regionalism, would work together for joint and individual benefit. It was seen as a guide but did not restrict national or bilateral development. The four pillars of the Plan were economic growth, sustainable development, good governance and security, and its success was seen to be dependent on the support for regional approaches by the Forum member countries, civil society, private sector development partners and other stakeholders.

9 The Pacific Financial Technical Assistance Centre (PFTAC), Asian Development Bank (ADB), Australia, EU, New Zealand and World Bank

10 In 2016, technical assistance from the ADB and the UN has supported the production of new National Development Strategies in Fiji, Kiribati, Tuvalu and Solomon Islands. In all of the Commonwealth Pacific small states, development partner funded advisers continue to support the development of national and sector policies and plans.

11 Forum Leaders embrace Pacific Regionalism as: 'The expression of a common sense of identity and purpose, leading progressively to the sharing of institutions, resources, and markets, with the purpose of complementing national efforts, overcoming common constraints, and enhancing sustainable and inclusive development within Pacific countries and territories and for the Pacific region as a whole.'

12 Pacific Women Shaping Pacific Development (Pacific Women) is a ten-year programme focused on enabling women and men across 14 countries in the Pacific to improve the political, social and economic opportunities for women. It reflects the Government of Australia's commitment to work for improved equality and empowerment of women. Pacific Women will support Pacific countries to meet the commitments by Pacific Leaders to work for gender equality. The goal of the programme is 'Women in the Pacific (regardless of income, location, disability, age or ethnic group) participate fully, freely and safely in political, economic and social life'. The outcomes are described as follows: (i) Women, and women's interests, are increasingly and effectively represented and visible through leadership at all levels of decision-making; (ii) Women have expanded economic opportunities to earn income and accumulate economic assets; (iii) Violence against women is reduced and survivors of violence have access to support services and to justice; and (iv) Women in the Pacific will have a stronger sense of their own agency, supported by a changing legal and social environment and through increased access to the services they need.

13 Membership includes representatives from the ADB, DFAT, FFA, PIFS, SPREP, PFTAC, SPC, WB, UNDP and UNESCAP

14 The Pacific region has in place a Ten Year Pacific Statistics Strategy (TYPSS) 2010–2020, which provides a framework and governance structure for improving national capacity through regional co-ordination and integration of statistical activities in the Pacific. The Pacific Statistics Steering Committee (PSSC), which consists of statisticians, planners and development partners from the region, was created to monitor and oversee the implementation of the TYPSS.

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Appendix 4.1 Global Partnership for Effective Development Co-operation Monitoring Framework

The set of global indicators (see table below) includes some that are based on the previous indicators from the Paris Declaration that developing countries have identified as particularly important. Other indicators capture some of the broader dimensions of the Busan Partnership agreement.

Indicators	Targets
1. Development co-operation is focused on results that meet developing countries' priorities	
Extent of use of country results frameworks by co-operation providers	*All providers* of development co-operation use country results frameworks
2. Civil society operates within an environment which maximises its engagement in, and contribution to, development	
A preliminary assessment of CSO Enabling Environment building on qualitative, multi-stakeholder information	*Continued progress over time*
3. Engagement and contribution of the private sector to development	
A three-dimension index providing a measure of the quality of public-private dialogue	*Continued progress over time*
4. Transparency: information on development co-operation is publicly available	
Measure of state of implementation of the common standard by co-operation providers	*Implement the common standard* – All development co-operation providers are on track to implement a common, open standard for electronic publication of timely, comprehensive and forward-looking information on development co-operation
5. Development co-operation funding is more predictable	
(a) Annual: proportion of development co-operation funding disbursed within the fiscal year within which it was scheduled by co-operation providers; and	*Halve the gap* – halve the proportion of aid not disbursed within the fiscal year for which it was scheduled (Baseline year 2010)
(b) Medium-term: proportion of development co-operation funding covered by indicative forward spending plans provided at country level	*Halve the gap* – halve the proportion of development co-operation funding not covered by indicative forward spending plans provided at country level.

Indicators	Targets
6. Aid is on budgets which are subject to parliamentary scrutiny	
% of development co-operation funding scheduled for disbursement that is recorded in the annual budgets approved by the legislatures of developing countries	*Halve the gap* – halve the proportion of development co-operation flows to the government sector not reported on government's budget(s) (with at least 85% reported on budget) (Baseline year 2010)
7. Mutual accountability among development co-operation actors is strengthened through inclusive reviews	
% of countries that undertake inclusive mutual assessments of progress in implementing agreed commitments	*All developing countries* have inclusive mutual assessment reviews in place (Baseline year 2010)
8. Gender equality and women's empowerment	
% of countries with systems that track and make public, allocations for gender equality and women's empowerment	*All developing countries* have systems that track and make public, allocations for gender equality and women's empowerment
9. Effective institutions: developing countries' systems are strengthened and used	
(a) Quality of developing country PFM systems; and	*Half of developing countries* move up at least one measure (i.e. 0.5 points) on the PFM/CPIA scale of performance (Baseline year 2010)
(b) Use of country PFM and procurement systems	*Reduce the gap* (use the same logic as in Paris – close the gap by two-thirds where CPIA score is >=5; or by one-third where between 3.5 and 4.5) (Baseline year 2010)
10. Aid is untied	
% of aid that is fully untied	*Continued progress over time* (Baseline year 2010)

Chapter 5

Ocean Governance: Our Sea of Islands

Hugh Govan

5.1 Introduction[1]

The Pacific island countries and territories (PICTs)[2] are large ocean states with jurisdiction over 28 million square kilometres of ocean in their Exclusive Economic Zones (EEZs)[3] or 8 per cent of the global ocean. This also covers 20 per cent of the global EEZs and 25 per cent of the world's coral reefs (Burke *et al*. 2011). These figures contrast markedly with the small combined land mass of only half a million square kilometres. The nine Commonwealth Pacific small states (Fiji, Kiribati, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu)[4] have the lion's share of land resources (95%), coastline (72%), area accessible to inshore fisheries (70%) and coral reefs (60%) but only 40 per cent of the region's EEZ. The major share of the EEZ is fairly evenly distributed between non-Commonwealth countries and dependent territories.

The Pacific is extremely culturally diverse, as exemplified by the more than 1,000 languages spoken. The ocean and coastal seas have long been integral to the Pacific way of life and world view. Indeed, there has been a growing call by countries of the Pacific island region for recognition as guardians of the Pacific Ocean, as eloquently expressed by Epeli Hau'ofa in 'Our Sea of Islands' (Hau'ofa 2008): 'no people on earth are more suited to be guardians of the world's largest ocean than those for whom it has been home for generations.'

Pacific peoples originally migrated and some traditionally voyaged over an area totalling around 70 million square kilometres extending from Easter Island in the east to New Zealand in the south, the Northern Hawaiian Islands and Papua in the west.[5] Thus, tens of millions of square kilometres currently considered beyond national jurisdictions have traditionally been the domain of the inhabitants of PICTs.

Pacific islanders' strong reliance on the ocean is exemplified by a consumption of fish 2-3 times more than the global average with 47 per cent of coastal households earning their first or second income from selling fish they catch. Commercial fishing access fees contribute up to 60 per cent of national revenue for some Pacific island nations and tourism may be the largest contributor to formal employment (Bell *et al*. 2011; Gillett 2016; World Bank 2016a).

The importance of the Pacific Ocean to the future of its island inhabitants is inescapable. This chapter sets out to briefly review the state and importance of its contributions to Pacific island countries, outline its governance and management arrangements, and after identifying some key issues and promising responses, suggest some ways forward to achieve a sustainable future.

5.2 Context

5.2.1 Pacific Ocean resources

The Pacific Ocean is currently an important resource for fisheries, transport and tourism, and there are also emerging opportunities for deep sea minerals, energy and bioprospecting.

Fisheries[6]

Fisheries production can be broadly categorised as coastal, offshore, freshwater and aquaculture (see Box 5.1). The volume of fisheries production in the Pacific region[7] is around 1.7 million tonnes, with an estimated value of US$3.6 billion dollars, 75 per cent of which is accounted for by Commonwealth Pacific small states (Table 5.1). The larger proportion is accounted for by offshore tuna fisheries, mainly by foreign-based vessels,[8] particularly in Kiribati and PNG.

It is evident from the fishery production, the clear dominance of offshore fisheries by value. However, the importance of coastal fisheries should not be underestimated.

Box 5.1 Types of fisheries

Coastal commercial: The catch that is sold (i.e. enters commerce) and that derives from fishing operations that take place in lagoon, reef, deepslope or shallow sea areas. This category also includes fish caught by trolling/handing from small vessels in the open sea adjacent to islands.

Coastal subsistence: The catch that is retained for consumption by the fisher or given away to family or friends. For simplicity, the catches from recreational fishing are considered as production for home consumption, and therefore as a component of subsistence fisheries.

Offshore locally based: The catch from industrial-scale tuna fishing operations that: (a) are based at a port in the relevant Pacific island country; and (b) are generally harvested more than 12 nautical miles offshore.

Offshore foreign based: The catch from industrial-scale tuna fishing operations that are based at ports outside of the relevant country.

Aquaculture: The production from the farming of aquatic organisms, including fish, molluscs, crustaceans and aquatic plants. Farming implies some form of intervention in the rearing process to enhance production, such as regular stocking, feeding or protection from predators.

Freshwater: The catch from streams, rivers and lakes, whether for subsistence or commercial purposes.

Source: Gillett, 2016

Table 5.1 Fishery production by category in 2014 (US$ million)

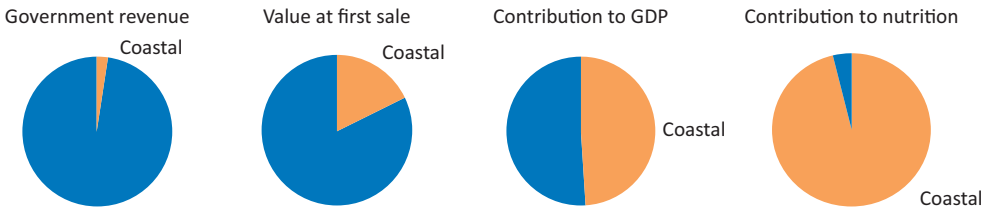
	Coastal		Offshore		Fresh-water	Aqua-culture	Total
	Commer-cial	Subsis-tence	Locally Based	Foreign Based			
Fiji	38	29	54		4	1	127
Kiribati	15	16	4	1,111		<1	1,147
Nauru	1	1		231			233
PNG	51	67	313	311	38	1	780
Samoa	18	12	5		<1	<1	35
Solomon Is	13	33	58	79	4	1	187
Tonga	18	10	4	5	<1	<1	37
Tuvalu	1	1		132	<1	<1	134
Vanuatu	6	7	1	26	<1	<1	42
Commonwealth Pacific small states	160	177	439	1,896	46	4	2,722
Pacific Region	218	236	738	2,273	47	116	3,628

Source: Gillett, 2016

This is because while coastal fisheries do not contribute significantly to government revenue, they provide half the fisheries-related contribution to gross domestic product (GDP) and most of the contribution to nutrition (Figure 5.1). These results are even more striking given that inshore fishing depends on little more than 1 per cent of the total ocean space under national jurisdictions. Aquaculture, which comprises a varied mix of low-value bulky products (such as seaweed) and small high-value products (such as pearls), and freshwater fisheries production contribute very little value to economic growth in Commonwealth Pacific small states.

Fisheries contribution to GDP is generally thought to be underestimated for most countries. Consequently, Gillett (2016) has attempted to re-estimate fisheries contribution to GDP given the weaknesses in official data. It was found that while official estimates varied from 1 to 9 per cent, re-estimates varied from 2 to 16 per cent. For countries where there are significant differences, the official estimates tended to

Figure 5.1 Relative importance of offshore and coastal fisheries to the Pacific Region



Source: Data from Gillett (2009) interpreted in Govan (2013)

Table 5.2 Official estimates and re-estimates of fishing contributions to GDP

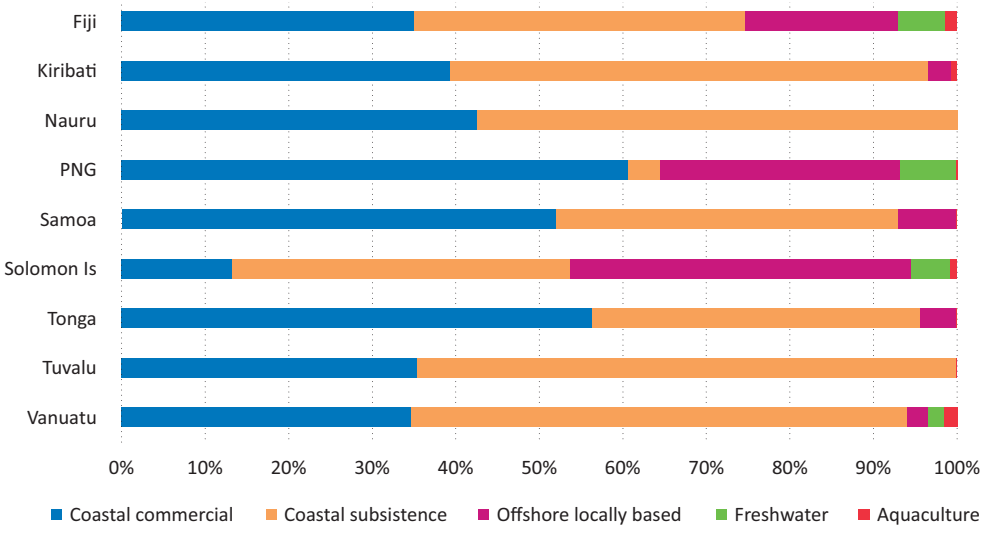
	Official fishing contribution (% of Official GDP)	Re-estimate of fishing contribution (% of Official GDP)	Year of GDP estimate
Fiji	1.8%	1.6%	2014
Kiribati	8.6%	16.2%	2014
Nauru	2.3%	1.3%	2014
PNG		1.7%	2014
Samoa	3.0%	3.4%	2014
Solomon Is	2.5%	7.2%	2014
Tonga	2.3%	4.4%	2013/2014
Tuvalu	9.4%	4.7%	2012
Vanuatu	0.6%	1.5%	2014

Source: Gillett, 2016

rely on dated surveys, weak indicators and/or poorly understood methods (Gillett 2016). Based on the re-estimates, Kiribati, Solomon Islands, Tuvalu and Tonga all recorded fisheries contribution of above 4 per cent of GDP (Table 5.2).

Except for PNG, Solomon Islands and Fiji, coastal fisheries account for 90 per cent of the fishing contribution to GDP (Figure 5.2). Coastal fisheries account for more than 50 per cent of the fishing contribution to GDP in PNG (>60%), Solomon Islands and Fiji (>70%).

Figure 5.2 Re-estimated fishing contribution to GDP by fishery category (US$)



Source: Gillett, 2016

Offshore Fisheries[9]

More than half of the world production of tuna is from the Western and Central Pacific Ocean (WCPO)[10] and the Pacific island countries' (PICs) waters supply around 34 per cent of the world's tuna catch each year, worth some US$3.4 billion to processors and generating net economic benefits to PICs of about US$500 million in 2013 (World Bank 2016b). Just over two-thirds was from domestic harvesting and processing by PICs, with the remainder from access fees.

The main species fished, status and current management recommendations are[11]:

- **Skipjack**: fast-growing and short-lived, in warmer tropical waters, the main species landed and regarded as relatively resilient to fishing pressure. Fishing mortality has been increasing but the stocks are not considered overfished, although in recent years catches have been around the maximum sustainable yield (MSY).[12] Current recommendations are to keep the skipjack stock around the current levels with tighter purse seine control rules.
- **Yellowfin**: relatively fast-growing species and the second largest component of catches found in tropical and subequatorial waters. Stocks are not considered overfished, although latest catches are close to or exceed the MSY. Current recommendations are that catches should not exceed 2012 levels, which had surpassed the MSY, and appropriate measures implemented to maintain current spawning biomass levels.
- **Albacore**: found in two discrete stocks, north and south of the equatorial zone, long-lived and generally caught in deeper waters. The northern stock is not considered overfished, and while the same applies to the southern stock, recommendations are to reduce longline catches to maintain economically viable catch rates.
- **Bigeye**: long-lived and among the largest tuna species with broad distribution. There has been overfishing for more than ten years and current management measures appear to be insufficient to end overfishing in the short term. Recommendations are to reduce fishing by 36 per cent compared to 2008-2011 levels.

The main tuna fishing methods are industrial, although small amounts are taken by small-scale artisanal fisheries in coastal waters:

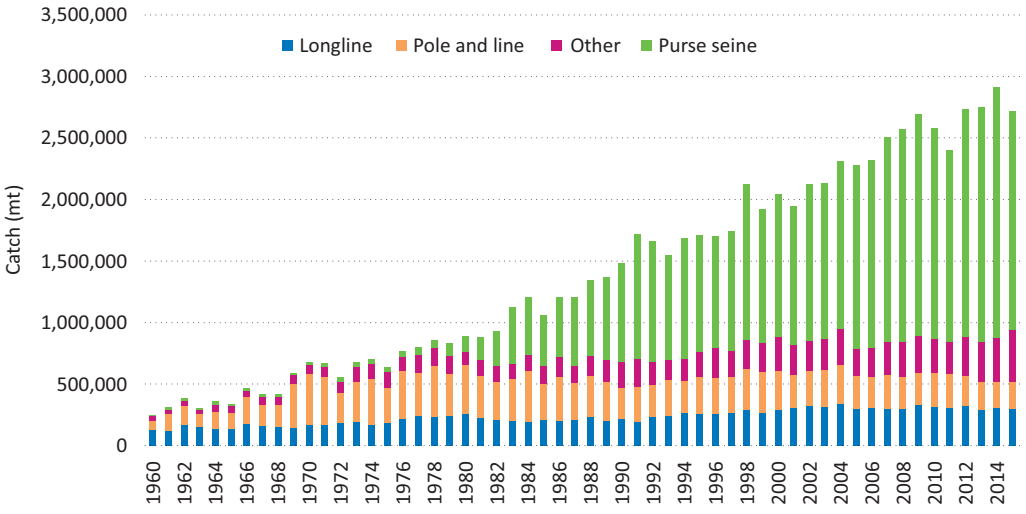
- **Industrial purse seining**: a large fishing vessel sets a net in a circle around a school of tuna. Largely targets skipjack and to a lesser extent yellowfin but may catch multiple species.
- **Industrial longline**: vessels set baited hooks from long lines with thousands of baited hooks attached at regular intervals. Larger vessels usually have their own freezing equipment and are based outside the Pacific and smaller vessels, which use ice, are based in Pacific ports. Representing around 10 per cent of catches, tropical longliners target mainly yellowfin and bigeye, while southern longline fishers target albacore.
- **Pole and line fishing**: catching fish by a pole with a single hook, while sprinkling sea with live bait targeting skipjack.

The movements of the region's four main tuna stocks cover a vast area of the WCPO and the fishing fleets have to cover thousands of kilometres in search of schools. However, the emergence of modern technology, particularly fish aggregating devices (FADs),[13] is continually improving cost-effectiveness. The Commonwealth Pacific small states control over a third of these waters and together with the other PICs control over two-thirds.[14]

The purse seine sector has seen important growth over the past 35 years with a tenfold increase in vessels (Figure 5.3) and nearly 20 times the landings to over 2 million tonnes in 2014. Other fishing methods have not seen similar growth or have declined (ISSF 2016). The distribution and abundance of tuna stocks are influenced by the currents, water temperature, dissolved oxygen and nutrient supply (Bell *et al*. 2011), particularly the effects of the El Nino-Southern Oscillation.[15] Subject to these variables, the major proportion of purse seine catches take place in the waters of Kiribati and PNG, with lesser proportions in Nauru, Solomon Islands, Tuvalu and non-Commonwealth Pacific small states of Federated States of Micronesia (FSM), Marshall Islands and Palau. Collectively, these states, which are also members of the Parties to the Nauru Agreement (PNA), control the world's largest sustainable tuna purse seine industry. Only around 20 per cent of catches occur outside the waters of the Commonwealth Pacific small states, including in Indonesia's and the Philippines' waters, and up to 7 per cent occurs in international waters.

Although there is a growing Pacific islands purse seine fleet (locally based), they were responsible for only 23 per cent of the WCPO purse seine catch in 2013, of which around half was caught by PNG. Foreign-based fleets accounted for the rest of the catch, with Taiwan, Japan, Korea and the USA accounting for 47 per cent, while Indonesia's and the Philippines' largely domestic fleets accounted for 20 per

Figure 5.3 Evolution of tuna catches in the WCPO by fishing gear



Source: Williams and Terawasi (2015)

cent. Other distant water fleets (China, Ecuador, New Zealand, El Salvador, Spain, Vietnam) accounted for the remaining catch (World Bank 2016b).

For the smaller longline industry, between a quarter and third of the tuna catches are in international waters, with other significant catches in the waters of Fiji, Kiribati, Solomon Islands and Vanuatu, as well as in the waters of non-Commonwealth Pacific small states (Cook Islands, FSM and French Polynesia) (World Bank 2016b using FFA 2015b data). Although PICs have jurisdiction over a relatively smaller proportion of the WCPO longline fishery, it generates higher value products (approximately triple by weight), such as albacore for higher priced canned tuna, and yellowfin and bigeye for sashimi. About half the catches are made by vessels from China, Taiwan and Japan while vessels from Indonesia, Korea, Vietnam, Vanuatu and Fiji catch between 5 and 10 per cent of the total each (World Bank 2016b).

Only around 12 per cent (US$1.9 billion) of the total value of the offshore fisheries (US$2.2 billion) is actually captured by the Commonwealth Pacific small states in terms of government revenue through access fees or levies (Table 5.3). Commonwealth Pacific small states receive access fees through fisheries treaties, particularly the PNA and the United States Tuna Treaty (see section on Regional Oceanic Fisheries Policy). Kiribati and PNG receive the majority of the US$263 million in access fees (Table 5.3). Access fees make up a significant per cent of government revenue for Kiribati (75%) and Tuvalu (58%), and to a lesser extent in Nauru (14%).

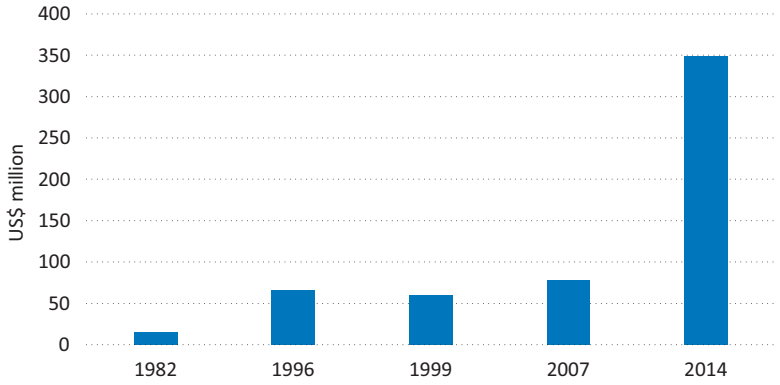
Access fees earned by the PICTs have increased since 1982. The United States has a long history relating to fishing agreements with the region since the signing of the South Pacific Tuna Treaty in 1987, which represented a 10 per cent rate of return compared to the 3 per cent average for bilateral access agreements up to that time (Tarte 1998; Toroa Strategy 2016). Access fees have risen sharply since 2007 (Figure 5.4). This increase has been attributed to the implementation of the 'vessel day scheme' (VDS) by PNA and Tokelau. Members of the PNA plus Tokelau have

Table 5.3 Access fees for foreign fishing in 2014

	Access fees (US$ million)	Access fees (% of government revenue)
Fiji*	<1	<1
Kiribati	116	75
Nauru	16	14
PNG	85	2
Samoa*	<1	<1
Solomon Is	28	7
Tonga	<1	<1
Tuvalu	15	58
Vanuatu	2	1
Commonwealth Pacific small states	263	n/a
Pacific Region	349	n/a

Note: *The only access fees are from the US Tuna Treaty.
Source: Gillett (2016)

Figure 5.4 Access fees in PICs 1982–2014



Source: Gillett, 2016

recorded successive increases in access fees, from US$205 million in 2013 to US$290 million in 2014 and an estimated US$390 million in 2015 (World Bank 2016b; FFA 2015b; Gillett 2016; Williams and Terawasi 2015).

Government-led attempts over the years to capture more of the value of tuna, other than through access fees, have not generally been successful. With the notable exception of PNG, in-country processing has had a chequered history. As stated by the World Bank (2016b):

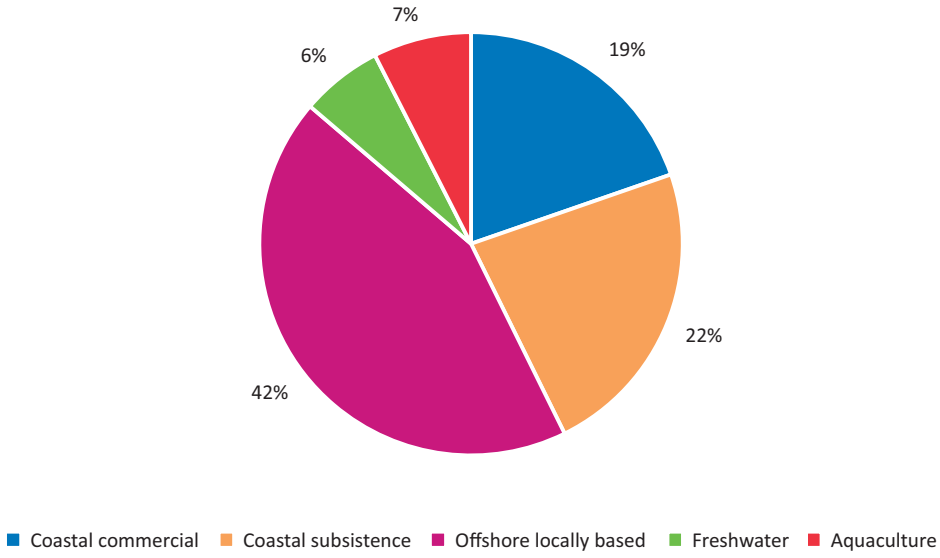
> *Most of the Government-led enterprises created in the 1980s or 1990s are no longer operating, but a number of private-led companies are currently processing catch in PNG, the Solomon Islands, Fiji and to a lesser extent RMI. In total the WCPO tuna fisheries value chains likely employ less than 0.5 percent of the region's current labour force. Less than 10 percent of the WCPO purse seine catch is processed locally, and Bangkok remains the world's largest tuna canner (despite increasing labour costs and several PICs' trade preference with the EU market).*

Coastal fisheries

Coastal fisheries permeate all aspects of Pacific island life. However, because it is difficult to quantify the value of coastal fisheries, they have a much lower political profile than oceanic fisheries. Nevertheless, as discussed earlier, coastal fisheries contribute significantly to GDP, government revenue and nutrition (Figure 5.5).

Sea cucumbers (or bêche-de-mer) are the second most valuable fishery after tuna and have been exploited as a high-value export commodity for at least 170 years (Conand 1990; Kinch *et al.* 2008, Purcell *et al.* 2013, Purcell *et al.* 2016). However, unlike tuna, this fishery is directly open to, and benefits, coastal dwellers, with an estimated 300,000 fishers in the region. For Fiji, PNG, Solomon Islands, Tonga and Vanuatu, sea cucumber production in the past decade had an average value of some US$20 million per year and it was estimated that improvements in resource management and processing could double the value accrued to communities (Figure 5.6) (Carleton *et al.* 2013). However, declining stocks manifest in boom and bust cycles, which

Figure 5.5 Fishing contribution by fishery category to the regional GDP in 2014

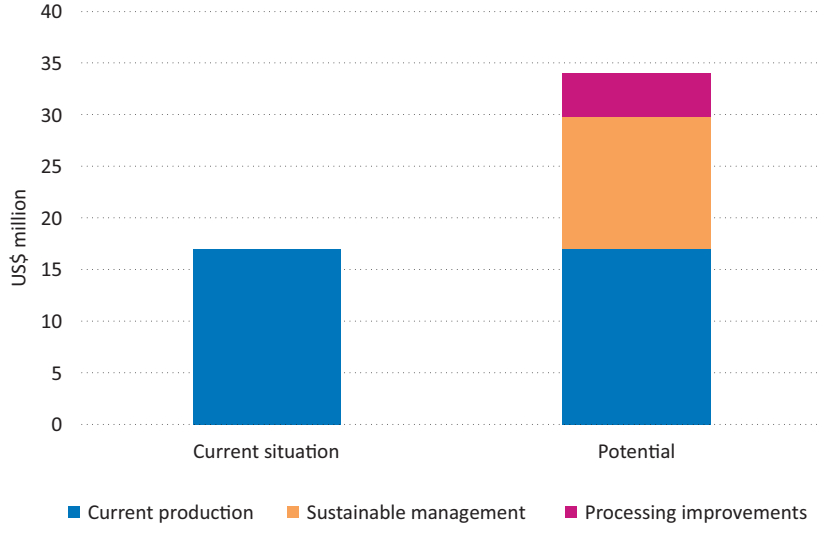


Source: Gillett, 2016

has prompted governments to set moratoria on sea cucumber production in many countries.

Coastal fisheries have a significant impact on local livelihoods for many of the Pacific coastal communities. While coastal fishing is mainly a subsistence activity to provide fish

Figure 5.6 Sea cucumber potential in Fiji, PNG, Solomon Islands, Tonga and Vanuatu



Source: Carleton *et al.* 2013

and invertebrates for household food, an average of 47 per cent of households in coastal communities are reported to earn their first or second income from selling surplus fish and invertebrates caught from coastal and nearshore waters (Bell *et al.* 2011).

In addition, coastal fishing contributes to the bulk of locally consumed fish, although in some places there are important contributions from offshore fishing (including tinned or discards/bycatch) and inland aquaculture (tilapia in PNG, Vanuatu and Fiji). Local consumption of fish in the Pacific region is estimated to be two to three times the global average but varies widely, being generally much higher in atoll nations (Kiribati, Nauru, Tuvalu) and lower in larger countries with significant inland populations (PNG, Vanuatu) (Gillett 2016).

Fish is rich in protein, essential fatty acids, vitamins and minerals and is thought to provide 50-90 per cent of dietary animal protein in rural areas across many PICTs (Bell *et al.* 2011). This 'healthy protein' is an alternative to nutritionally poor imported foods that increasingly form part of Pacific diets and is thought important to combat the high prevalence of non-communicable diseases in the region (Charlton *et al.* 2016). As a large proportion of the Pacific population lives in remote rural areas with poor transport infrastructure and lack of cash, they are heavily dependent on coastal fisheries in maintaining healthy diets. Healthy coastal fisheries also provide a source of emergency food during disaster recovery when agricultural production may be disproportionally affected.

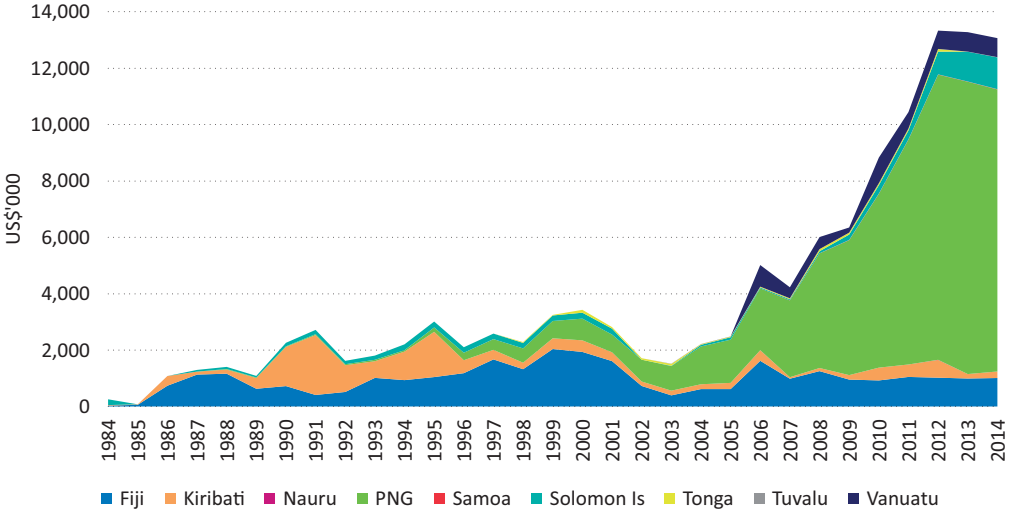
Moreover, other activities that rely on the availability of coastal fisheries, such as tourism and cultural obligations, depend on the inextricable link to the healthy functioning of the ecosystems. Culturally, local communities attach a high value to preserving ecosystems for use by future generations (bequest value). This may reflect the 'duty of care' that underpins the relationship between the people and land in many regions (O'Garra 2012). Coastal fisheries also play an important role in social cohesion (WWF 2016). These are some of the important non-market values of coastal fisheries and it is indisputable that these important 'intangibles' are of great value to people and industries in the Pacific (WWF 2016).

Aquaculture

For more than 50 years, aquaculture has been promoted as a development opportunity, presumably owing to the abundance of appropriate environmental conditions, as well as to divert pressure from wild fisheries stocks. However, despite many years of research and investment, the production of aquaculture in the region is relatively small. According to Gillett (2016), aquaculture is valued at around US$116 million (Table 5.1), mainly led by French Polynesia (pearls) and New Caledonia (shrimps). Commonwealth Pacific small states account for only US$4 million of the regional catch or 0.1 per cent of the value of fisheries production (Table 5.1), with Fiji and PNG accounting for the bulk of that value, at US$1.5 million and US$1.2 million, respectively.

Interestingly, while the Food and Agriculture Organization (FAO) had similar estimates for the regional value of aquaculture, albeit slightly higher, at US$135

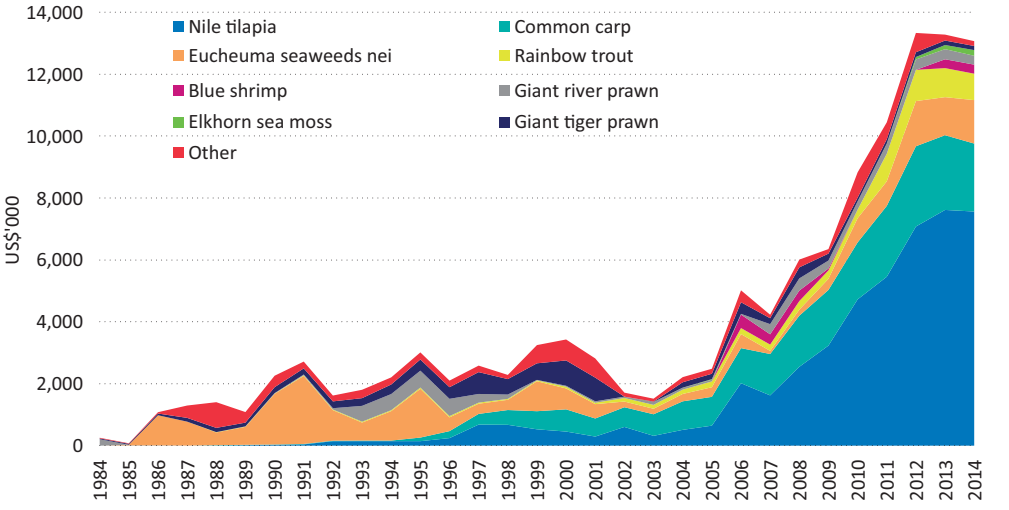
Figure 5.7 Value of marine and freshwater aquaculture by country



Source: FAO 2016

million (FAO 2016), the country-level estimates were quite different, particularly for PNG. FAO estimated the aquaculture value for PNG at US$10 million in 2014 (Figure 5.7), led by tilapia (Figure 5.8). It is unclear, though, as to the source of FAO's data. Although not strictly relating to ocean governance, given the potential that freshwater aquaculture may have, particularly in the larger islands, to substitute or supplement protein sources from marine fisheries, it is important to clarify the differences in the data.

Figure 5.8 Value of aquaculture by species



Source: FAO 2016

More than 40 species have been subject to experimental and sometimes commercial-scale pilots, including bivalves, shrimps, crabs, coral, seaweed and fish. Production of seaweed (eucheuma) has on occasion shown some promise in rural settings but has been characterised by large fluctuations over the past 30 years relating to variations in market price, project cycles and government policy priorities (Figure 5.7).

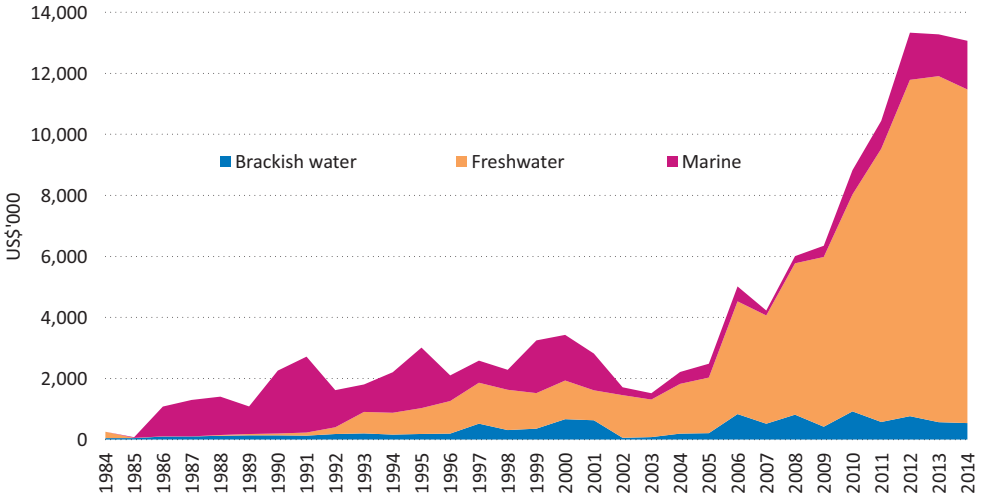
Subject to data reliability, the FAO's data indicates extremely disappointing trends in marine aquaculture or mariculture production (Figure 5.9), especially in light of continued investment by donors, governments and, perhaps consequently, regional organisations; and the often-stated hopes for marine aquaculture. The situation for freshwater aquaculture is more hopeful in terms of successes in PNG for tilapia and carp, but these data may be subject to verification.

Transport

The Pacific Ocean has long been vital to the indigenous people as a mode of communication, and more recently has acquired global importance for international and domestic transport and other shipping activities, such as fishing and cruise tourism. Spurred by global trade, global shipping has increased significantly in the last 20 years, with nearly four times as many ships at sea. The Pacific Ocean saw ship traffic spike after 2008, especially near China, with cargo shipping accounting for much of the growth (Tournadre 2014; Kinch *et al.* 2010). More than a third of the east-west global container traffic crosses the Pacific (UNCTAD 2015) (Figure 5.10) and the importance of trans-Pacific trade is intimately linked to the major defence spending in the region by bordering states, which dwarfs the economies of island states in comparison – this is further addressed in the discussion on geopolitical issues below.

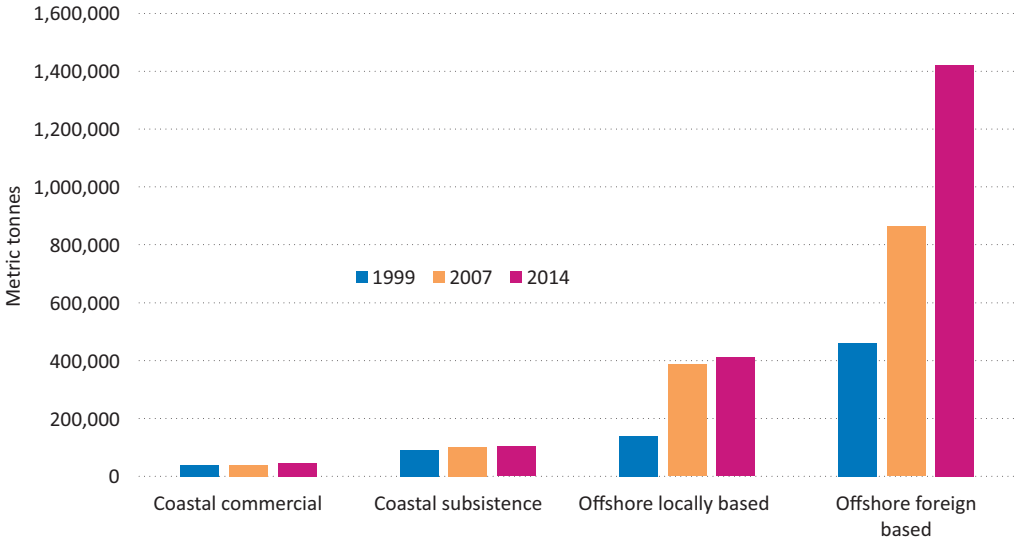
The high and increasing reliance of PICs on imports has created high dependency on domestic and international shipping. However, the unique characteristics of Pacific

Figure 5.9 Value of aquaculture by environment



Source: FAO 2016

Figure 5.10 Fisheries production of the Pacific Island Countries



Source: Gillett 2016

shipping (minute economies at the end of long routes, imbalance in inward/outward loadings, financing barriers, high operational risk and high infrastructural costs) present a greater challenge than for most other countries and regions (Nuttall *et al.* 2014). The majority of countries, apart from PNG and Fiji, unable to benefit from 'way port calls' (e.g. from services between Australasia and North America) (ADB 2007), are particularly challenged and there have been calls for more sustainable transport options (Newell *et al.* 2016).

The growth of cruise ships is also high in the South Pacific region, up 18.7 per cent in 2014 from 2013, and more than double the number in 2010 (World Bank 2016a). In 2014, cruise ships brought over 400,000 cruise passengers from the two top source markets of Australia and New Zealand to the region. Of the total, Fiji, PNG, Samoa, Tonga and Vanuatu received 350,197 cruise passengers, with the greatest share going to Vanuatu.

Developing countries are increasingly turning to open ship registries as a source of revenue. These registries, which allow registration of foreign-owned vessels for a fee, are also known as 'flags of convenience', with 71 per cent of the world's total shipping tonnage registered in such a way. Panama, Liberia and the Marshall Islands are the largest vessel registries, which together accounted for 42 per cent of the world tonnage in 2015, with the Marshall Islands having recorded an impressive growth of over 13 per cent over 2014 (UNCTAD 2015). Tuvalu and, until recently, Tonga, are the Commonwealth Pacific small states that have operated small open registries.

Tourism[16]

Tourism has emerged as an important sector for the Commonwealth Pacific small states with 1.2 million visitor arrivals, worth US$500 million in 2014 (World Bank

2016d). Fiji is by far the most popular destination, followed by PNG, Samoa and Vanuatu. Most of the market comprises visitors from Australia and New Zealand.

Many, if not most, of these visitors are attracted to the region's predominant resource, the ocean. For instance, more than 75 per cent of tourists surveyed in Fiji reported that swimming was one of the primary activities of their vacation, with over 50 per cent reporting a variety of other water- or beach-related activities (Verdone *et al*. 2012). The attraction of these marine resource-based activities will be affected by factors including carrying capacity and reduced environmental quality.

The World Bank (2016a) estimates that potentially by 2040, transformational tourism opportunities could bring an additional US$1.89 billion in revenue and 127,600 jobs to Pacific island countries through an additional million tourists. The cruise ship industry is growing rapidly at near 20 per cent per year to 400,000 passengers in 2014. Home-basing cruise ships alone could bring over 133,000 tourists per year, up to US$75 million in receipts and port fees and 4,500 jobs.

Emerging uses

Energy

Interest in renewable energy production from ocean resources has a long history, most notably ocean thermal energy conversion (OTEC) and wave energy. At present there are no large-scale commercial operations[17] anywhere in the world but, theoretically, Commonwealth Pacific small states could all benefit from these technologies (Hourcourigaray *et al*. 2014; Lohani and Vega 2014). Wave energy converters are deemed unproven as the small tidal range in most Pacific islands limits this technology. However, a recent study (Bosserelle *et al*. 2016) found that Pacific islands south of latitude 20 degrees receive sufficient wave energy for generation costs to be

> *on a par with the cost of generation of other renewable energies, such as wind and solar, and, for exposed sites, on a par with the cost of diesel generation. These findings suggest that wave energy is a genuine contender for the development of renewable energy in the Pacific.*

In other areas, land-based wind generation is increasingly being deployed in the region and, though limited to sufficiently windy zones, there are opportunities for offshore wind farms, particularly where land availability is a constraint. In French Polynesia, seawater air conditioning has been used at several resorts, which have the appropriate conditions of nearby deep water (Hourcourigaray *et al*. 2014).

There are considerable economic factors to be taken into account to harness the oceanic energy potential for commercial production, and a regional investment approach may be more appropriate in ensuring that investment in large-scale pilots is appropriately targeted. However, there appears to be limited justification to deploy complex and unproven technologies in the Pacific until proven elsewhere (e.g. Hawaii) and there is sufficient capacity built in the Pacific.

PNG is the region's only exporter of fossil fuels and continues to carry out offshore oil exploration, where terminal facilities and undersea pipelines also affect the surrounding ocean environment. Other Commonwealth Pacific small states have historically been interested in offshore oil exploration (e.g. Fiji, Tonga and Solomon Islands) although attention is currently focused on deep sea minerals.

Deep sea minerals[18]

Prospecting of the deeper sea floor in the late nineteenth century and again in the twentieth century has provided evidence of the existence of metallic minerals across large sections of the ocean floor, including in the EEZs and extended continental shelves of the PICs. These deep sea minerals (DSM) occur in deep water (400-6,000 metres), with three main types identified within the national jurisdiction of PICs:

- **Seafloor massive sulphides**: Minerals precipitated around seafloor hydrothermal or volcanic vents, including copper, iron, zinc, silver and gold. Known to occur in Fiji, PNG, Solomon Islands, Tonga and Vanuatu.
- **Polymetallic manganese nodules**: Nodules containing minerals such as cobalt, copper, iron, lead, manganese, nickel and zinc, which usually occur at great depths (4,000-6,000 metres). These have been found in the waters of Cook Islands and Kiribati, as well as the Clarion Clipperton Fracture Zone in the eastern Pacific, beyond national jurisdictions.
- **Cobalt rich crusts (CRC)**: As well as cobalt, these may contain precious metals such as silver and some of the strategically important rare earth elements. These are found between 400 and 4,000 metres depth and have been prospected in Kiribati, Samoa, Tuvalu, Marshall Islands and FSM.

The renewed interest in DSM, not seen since the 1970s, has been driven by a number of factors, including the gradual decline of the grade of onshore minerals, the high commodity prices of 2008 and again in 2010-11, as well as technical advances in DSM exploration. PNG is the only country so far to grant a deep-sea mining licence under the Solwara 1 Project in a world first lease to Nautilus Minerals. Fiji, Solomon Islands, Tonga and Vanuatu have previously granted DSM exploration permits.

There were increasing expectations that DSM mining may soon become a reality in the Pacific, but these have been thrown into question by the persistently low mineral commodity prices of recent years. In addition, given the uncertainty surrounding the amounts and value of minerals on the seabed, costs associated with their extraction, and the cost of potential social and environmental impacts, it is hard to assess the economic potential of DSM.

A recent study (SPC 2016b) suggests that the Solwara 1 Project in PNG could produce US$130 million present value for Nautilus, after taking out capital and operating expenses, as well as generating around US$83 million over two years for the PNG government based on royalties, corporate tax and the Government's 15 per cent share of Nautilus's profits. The same study calculated negligible costs in terms of lost environmental services or unplanned spills. A more complex analysis for manganese

nodules in Cook Islands found, in the *best scenario*, a present value of US$494 million accruing to Government over 20 years though considerably less under other scenarios. However, for the case of CRC in the Marshall Islands, given current technology and market conditions, the benefits associated with DSM mining were unlikely to exceed the costs. Although there is still a major need for cost models and more information, potential revenue of these magnitudes would clearly be attractive to Pacific island governments, particularly in the smaller countries.

Bioprospecting and marine genetic resources

Recent Commonwealth Secretariat reviews (Day *et al*. 2016; Commonwealth Secretariat 2014) highlight that:

> *oceans and seas are the source of a huge variety of living marine resources that have huge potential for developing new food, biochemical, pharmaceutical, cosmetics and bioenergy applications. About 18,000 natural products have been developed to date from about 4,800 marine organisms, and the number of natural products from marine species is growing at a rate of 4 percent per year.*

Thus, marine genetic resources (MGR) are deemed to represent an important opportunity for small island developing states (SIDS)[19] and PICs in particular.

5.2.2 Global and regional ocean governance

Commonwealth Pacific small states have acceded to or ratified many multilateral agreements. Some provide access to global funds which facilitate implementation. However, in general, implementation is a major challenge for most PICs. International (and many regional) policy commitments in general do not correlate with national emphasis on implementation (Chasek 2009; 2010; Pratt and Govan 2010), but in the field of ocean governance (and more recently climate change), PICs have punched far above their weight in terms of influencing global policy in their favour (Quirk and Hanich 2016), particularly in the area of tuna. The following sections outline the policy instruments of most relevance to ocean governance in the region,[20] as well as those institutions responsible for its implementation (see Appendix 5.1 for a detailed account of the various roles of regional organisations in ocean governance).

Global oceans conventions and relevant international agreements

United Nations Convention on the Law of the Sea (UNCLOS), 1982

This global convention defines the rights and responsibilities of nations with respect to their use of the world's oceans, establishing guidelines for businesses, the environment, and the management of marine natural resources. The convention has been ratified by 168 parties, including all the Commonwealth Pacific small states.[21] Fiji was the first country to ratify in 1982.

The United Nations (UN) supports the implementation of the Convention through inter-agency mechanisms such as UN Oceans. The Division for Ocean Affairs

and the Law of the Sea (DOALOS) serves as the Secretariat for the Convention, reporting annually to the General Assembly, making recommendations promoting better understanding of the Convention and supporting States in implementing its provisions. Other aspects are handled by bodies, such as the Commission on the Limits of the Continental Shelf (CLCS) or specific international organisations; those of most relevance are: the International Maritime Organisation (IMO), the International Whaling Commission (IWC), Western and Central Pacific Fisheries Commission (WCPFC), and the International Seabed Authority (ISA).

International Maritime Organisation Conventions

Except for Nauru, all the Commonwealth Pacific small states are party to the various IMO conventions (SPC 2016d):

- International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.
- Intervention on Oil Pollution Preparedness, Response and Co-operation (OPRC) and Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances (OPRC-HNS).
- International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION Convention) and the 1973 Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other Than Oil (INTERVENTION Protocol).
- International Convention on the Control of Harmful Anti-fouling Systems in Ships (AFS Convention), 2001 (in force 2008).
- 2004 International Convention for the Control and Management of Ships' Ballast Water and Sediments (not yet in force).

At the regional level, the South Pacific Regional Environment Programme (SPREP) supports countries with implementing strategies and contingency plans, as well as facilitates the development of legislation consistent with the IMO Conventions.

United Nations Convention on Biological Diversity (CBD), 1993

The CBD is a global agreement addressing all aspects of biological diversity: genetic resources, species, and ecosystems, with the specific goals of the conservation of biological diversity (or biodiversity), the sustainable use of its components; and the fair and equitable sharing of benefits arising from genetic resources. There are number of protocols under the CBD addressing issues such as Biosafety and Access to Genetic Resources and the Fair and Equitable Sharing of Benefits. All the Commonwealth Pacific small states have signed and ratified the Convention.

In 2010, countries adopted a Strategic Plan for Biodiversity, including the Aichi Biodiversity Targets to be achieved by 2020. These targets include applying ecosystem-based approaches to ensure sustainable fisheries (Target 6) and targeting

the conservation of 10 per cent of coastal and marine areas through protected areas and other effective area-based measures (Target 11).

The Western and Central Pacific Fisheries Commission

The WCPFC was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention), which entered into force on 19 June 2004,[22] to implement the Provisions of the UN Fish Stocks Agreement (UNFSA).[23] The WCPFC adopts 'resolutions' which are non-binding statements and 'conservation and management measures' which are binding, with about 40 management measures currently in force.

The WCPFC meets annually and decisions are taken on the basis of consensus, which can be problematic for members:

> *Pacific island countries form the largest block of members in the WCPFC, and most often agree on common positions on issues before a WCPFC meeting – but this does not equate to those countries getting what they want in Commission meetings. The convention that established the commission states that as a general rule, decision-making in the Commission shall be by consensus. The convention indicates that 'consensus' means the absence of any formal objection made at the time the decision is taken. Given the diversity of interests by WCPFC member countries, this provision has created problems for the WCPFC (and all the other regional tuna commissions in the world) as it often means that a small number of countries can block measures that are perceived by other countries to be important. It should be noted that when fisheries commissions "fail" it is not because of lack of action of the secretariats of those commissions (in this case, the WCPFC office in Pohnpei).*
>
> (Gillett 2014)

There is a widespread perception that 'the fishing industry has an overly large influence in the delegations of several distant water fishing country members', which hinders decision-making relating to sustainable resource management on the high seas and places an unfair 'conservation burden' on PICs (Aqorau in Gillett 2014), which implement more effective management in their EEZs.

The 2030 Agenda for Sustainable Development, 2015

The 2030 Agenda sets out to strengthen universal peace, eradicate poverty, protect the planet and revitalise global partnership, through the achievement of 17 Sustainable Development Goals (SDGs) by 2030. Goal 14 focuses on the conservation and sustainable use of the oceans, seas and marine resources for sustainable development (Appendix 5.2). The Goals relating to poverty (Goal 1), hunger and food security (Goal 2), gender (Goal 5), climate change (Goal 13) and governance and participation (Goal 16) also have links with ocean issues.

Pacific Islands Forum Leaders have committed to the implementation of the SDGs, with particular attention to the region's 'unfinished business' on the Millennium Development Goals. The region is currently undertaking a country-driven process to tailor the global indicators to the national and Pacific context. These tailored

indicators will be used to monitor the region's progress on the SDGs, as well as to monitor the implementation of the SIDS Accelerated Modalities of Action (SAMOA) Pathway and initiatives of the Framework for Pacific Regionalism (see Box 5.2).

SAMOA Pathway, 2014

The Third International Conference on Small Island Developing States held in Apia, Samoa, in 2014 adopted the SAMOA Pathway, which specifically addresses oceans, covering, inter alia, sustainable use, conservation, pollution, research, coral reefs, illegal, unreported and unregulated (IUU) fishing, small-scale fisheries development and management, subsidies, capacity, co-operation and a series of environmental commitments, including a 10 per cent commitment to protected areas.

Regional ocean policy instruments

Pacific Islands Regional Ocean Policy (PIROP), 2002

After a relatively lengthy process of consultation, PIROP was endorsed by Pacific Islands Forum Leaders in 2002 and its Framework for Integrated Strategic Action (PIROF-ISA) in 2005 (Pratt and Govan 2010). The PIROP envisions a healthy ocean that sustains the livelihoods and aspirations of Pacific island communities and defines the ocean in a broad sense to include the waters of the ocean, the living and non-living resources and the seabed, as well as the ocean interfaces with islands and atmosphere. This broad definition can be taken to include the areas beyond national jurisdiction (ABNJ).[24]

The policy reaffirms international commitments but also addresses issues of specific concern to PICs, including the importance of communities and customary processes, the impact of land-based activities, the impact of potential DSM on ecosystems, and the importance of co-ordination and consensus.

Box 5.2 Framework for Pacific Regionalism

The Framework for Pacific Regionalism was endorsed by Pacific Islands Forum Leaders in July 2014. The Framework replaced the Pacific Plan for Strengthening Regional Cooperation and Integration. In seeking regional collective action, the Framework explicitly values the 'integrity of our vast ocean and our island resources'. Based on objectives relating to sustainable development, governance, security and economic growth, Forum Leaders will each year prioritise a limited number of regional initiatives (with no more than five, ongoing or new, to be selected at any one time) in support of deepening regionalism. The process involves open submissions, which are screened by the Specialist Sub-Committee on Regionalism. To date, several ocean-related submissions have been received and approved by Leaders in the form of the Roadmap for Sustainable Fisheries in 2015 and a commitment to coastal fisheries in 2016.

Source: PIFS, 2014

While the PIROF-ISA remains the most comprehensive ocean policy guidance in the region, it did not define an adequate co-ordination or resourcing system. The facilitation role to co-ordinate implementation of the PIROP and PIROF-ISA fell almost by default to the Council of Regional Organisations of the Pacific (CROP) Marine Sector Working Group (MSWG), but this role was never added to its formal mandate, nor were dedicated resources provided, which hindered implementation.

Despite the lack of implementation of the PIROP, some of its elements have gained traction in later related agreements, such as the Pacific Islands Forum Leaders' Vava'u Declaration on Pacific Fisheries Resources (2007), which called for solidarity in managing WCPO tuna stocks and effective management of coastal fisheries. Subsequently, the Pacific Islands Regional Coastal Fisheries Management Policy and Strategic Actions (Apia Policy, 2008-2013) was developed, and shortly thereafter, several other regional tuna strategies were developed.

Our Sea of Islands, Our Livelihoods, Our Oceania. Framework for a Pacific Oceanscape, 2010

Agreed by Pacific Islands Forum Leaders the Framework for a Pacific Oceanscape (FPO) envisions 'A secure future for Pacific island countries and territories based on sustainable development, management and conservation of our Ocean', and defines three objectives (Pratt and Govan 2010):

- **Integrated ocean management**: to focus on integrated ocean management at all scales that results in the sustainable development, management and conservation of our island, coastal and ocean services.
- **Adaptation to environmental and climate change**: to develop suitable baselines and monitoring strategies that will inform impact scenarios and specific understanding of environmental and climate change stressors.
- **Liaising, listening, learning and leading**: use of appropriate facilitative and collaborative processes, mechanisms and systems and research that results in the achievement of the objectives.

Since the endorsement of the FPO, a number of PICTs and territories have made Large Scale Marine Protected Areas (LSMPAs) commitments, including the Cook Islands Marine Park or Marae Moana and Palau's National Marine Sanctuary (Giron 2016; Jones and de Santo 2016). However, the main intention of the FPO is to revitalise cross-sector planning, management and sustainable development as previously outlined in PIROP and to provide guidance on appropriate processes. There are some key 'new' actions that update or complement perceived gaps in previous policy – particularly the Ocean Commission and Alliance mechanism, climate change and ocean acidification.

To date, there has been progress in implementing the FPO. An Ocean Commissioner has been designated (not fully dedicated as originally intended, but the Secretary-General of the Pacific Islands Forum Secretariat in a part-time capacity), supported by the Office of the Pacific Ocean Commissioner (OPOC). The Pacific Ocean Alliance

was launched and is currently working on issues of the high seas. In addition, funding for the FPO has been forthcoming from Australia and through Conservation International.

Regional oceanic fisheries policy

South Pacific Forum Fisheries Agency Convention, 1979

The Pacific Islands Forum Leaders established the Forum Fisheries Agency in 1979 endorsing the South Pacific Forum Fisheries Agency Convention in response to the emerging Law of the Sea and the perception that distant water fishing nations negotiated access agreements bilaterally in a strategy of 'divide and conquer' (Gillett 2014). This treaty created the Forum Fisheries Agency (FFA) that aimed to drive regional co-operation for the sustainable use and management of Forum members' shared tuna resources. Members of the FFA consists of 15 PICTs plus Australia and New Zealand, including all the Commonwealth Pacific small states.

FFA services include development of regional and national policies, national and regional tuna fisheries management services (such as maintaining a tuna fishing vessel registry and a satellite-based tuna fishing vessel monitoring system), and providing information, analysis and training for countries.[25] The Niue Treaty on Cooperation in Fisheries Surveillance and Law Enforcement in the South Pacific Region 1992/2012 promotes co-operation among FFA members, including on enforcement, regional surveillance procedures and patrols, and establishment of harmonised minimum terms and conditions of foreign fishing vessel access to PIC waters. FFA has also helped facilitate negotiations with the United States on a Multilateral Fishing Treaty since 1987, for common conditions and fees for access to PIC waters by the US tuna fleet, together with targeted bilateral aid from the USA (US Department of State 2015).

Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest, 1982

Fish stocks are not evenly distributed across the Pacific and the PICs with the heaviest concentration of purse seine fishing built on the FFA convention to harmonise management of fish stocks shared across the zones of the PNA. In order to increase the benefits accruing from access fees, an FFA study in 2000 suggested that the eight countries of the PNA should shift their attention from capping vessel numbers to limiting the number of purse seine fishing days. By 2007, the Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery (PA) created a vessel day scheme (VDS) that sets a collective limit on the total allowable effort (TAE) and allocation of the effort between the parties. The PA has been amended regularly and by 2015 had achieved measures to combat 'effort creep', the closure of a number of high seas areas to vessels wishing to obtain a licence to fish in PNA waters, the establishment of an Office in the Marshall Islands (PNAO) and the inclusion of longline fishing in 2014.

The mechanism appears complex but is best suited to the multi-jurisdictional setting of the PNA countries and is implemented as part of the Conservation and

Management Measures agreed at WCPFC. PNAO co-ordinates with FFA on vessel registration, monitoring and surveillance.

Significantly, PNA has been able to maintain solidarity among its members, as they have a smaller number of countries with similar stakes and pay careful attention to negotiating approaches.

The more recent Tokelau arrangement (TKA), effective since December 2014, aims to control the South Pacific longline fishery using similar regional co-operative approaches to the PNA by establishing rights-based management, setting limits across the jurisdictions of all participants and allocating shares to participants (Reid *et al*. 2016).

Regional Roadmap for Sustainable Fisheries, 2015

In 2015, the fisheries sector was identified as a regional priority under the Framework for Pacific Regionalism public policy process. Subsequently, Pacific Islands Forum Leaders endorsed a Regional Roadmap for Sustainable Fisheries and established a fisheries taskforce to focus on oceanic fisheries. The Roadmap sets out goals, indicators and strategies for both tuna fisheries and coastal fisheries (World Bank 2016b and FFA 2015b).

Management arrangements for PICs' oceanic fisheries rely on the internationally recognised scientific advice on stocks from the Secretariat of the Pacific Community (SPC). FFA supports national fisheries agencies directly, as well as providing support to PNA and the WCPF management initiatives, including operating the Vessel Monitoring System and Regional Fisheries Surveillance Centre. FFA also supports regional observer programmes, assists with port state enforcement, and maintains the FFA vessel register. There are Monitoring, Control and Surveillance Working Group Meetings (MCSWGM) in place to oversee, review and advise on regional and national monitoring, control and surveillance activities.

Regional coastal fisheries policy

Despite increasingly urgent calls for attention to coastal fisheries management since the Apia Policy (Gillett and Cartwright 2010), national implementation of effective improvements to coastal fisheries management, except for Samoa, remains slow in most countries (Gillett and Cartwright 2010).

Melanesian Spearhead Group Roadmap for Inshore Fisheries Management 2015-2024

In 2012, the Prime Minister of Fiji along with other Leaders of the Melanesian Spearhead Group (MSG)[26] recognised the precarious state of coastal fisheries and the massive potential impacts on food security, calling for a roadmap for inshore fisheries management. This led to a review process, which was supported by the SPC (Govan 2013a), and development of the draft policy in 2013. The MSG Coastal Fisheries Roadmap 2015-2024 was subsequently endorsed in 2015, and has been explicitly used to guide the development of the Solomon Islands and PNG national coastal

fisheries policies, currently awaiting endorsement, as well as Fiji's coastal fisheries policy, currently under development.

The Noumea Strategy: A New Song for Coastal fisheries – Pathways to Change, 2015

The Noumea Strategy: A New Song for Coastal Fisheries – Pathways to Change (SPC 2015) ('New Song'), endorsed by fisheries ministers, replaced the region's coastal fisheries policy (Apia Policy 2008-2013). The New Song drew inspiration from, and is entirely compatible with, the MSG Roadmap, with proposals made for other subregions to carry out their own roadmap exercises given the different situations prevailing in each. The New Song represents a significant step forward in regional attention to and management of coastal fisheries.

The essence of the 'New Song' was subsequently endorsed by Pacific Islands Forum Leaders in 2015 under the Future of Fisheries: A Regional Roadmap for Sustainable Pacific Fisheries (FFA 2015a).

Regional Roadmap for Sustainable Fisheries, 2015

In 2015, the fisheries sector was identified as a regional priority under the FPR public policy process, which led to the development of a Regional Roadmap for Sustainable Fisheries that included targets and goals for coastal fisheries. The Regional Roadmap for Sustainable Fisheries was subsequently endorsed by Pacific Islands Forum Leaders and is already influencing technical and donor programming (L. Chapman, SPC, personal communication).

Many elements of the Regional Roadmap are aligned with the FAO's recently produced Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication.

Management of coastal fisheries is almost exclusively in the national or local community domains. However, there are suggestions for MSG countries to co-operate on the monitoring and possible regulation of companies trading bêche-de-mer. There are also signs of a greater commitment by regional agencies, such as SPC and the OPOC, to monitor the country implementation of ocean-related policies and this may encourage more political oversight and momentum on national coastal fisheries management.

Regional frameworks on deep sea minerals

UNCLOS provides states with the rights to exploit the DSM resources of their continental shelves and, in addition, states are able to seek rights to undertake or sponsor DSM activities within the ABNJ ('Area'). UNCLOS also creates a general obligation for states to protect and preserve the entire marine environment both within and outside areas of national jurisdiction (SPC 2012).

Under UNCLOS, the International Seabed Authority administers the Area and within this general legal framework, ISA issues rules, regulations and procedures referred to as the 'Mining Code'. UNCLOS signatory states (including all Commonwealth Pacific small states) may access the DSM of the Area by applying to the ISA, or may sponsor

a corporate body to do so. By 2014, four PICs (Nauru, Tonga, Kiribati and the Cook Islands), in partnership with foreign companies and investors, became sponsoring states in the Area (SPC 2016e).

Regionally, SPC's EU-funded DSM Project (SPC-EU DSM) has been actively producing regional guidance frameworks, including on the development of DSM legislation. As of June 2016, the following regional frameworks had been produced:

- Pacific-ACP States Regional Legislative and Regulatory Framework for Deep Sea Minerals Exploration and Exploitation (SPC 2012).
- Pacific-ACP States Regional Financial Framework for Deep Sea Minerals Exploration and Exploitation (SPC 2016e).
- Pacific-ACP States Regional Environmental Management Framework for Deep Sea Minerals Exploration and Exploitation (SPC 2016b) (REMF).
- Pacific-ACP States Regional Scientific Research Guidelines for Deep Sea Minerals (SPC 2016d).

The SPC-EU DSM provides an example of effective regional support. Although this project is scheduled to end in 2016, it is expected that SPC will continue to offer support. Commonwealth Secretariat's Oceans and Natural Resources Advisory Division also has specialist in-house technical experts who can advise member States on deep sea mineral policy, law and economics.

5.2.3 Maritime boundaries and jurisdiction

Legally defined jurisdiction provides a basis for securing ocean benefits under UNCLOS. Maritime boundaries are established through delimitation where zones overlap. The establishment of maritime zones is a unilateral act, notification of which is provided to the international community through the formal deposit of information relating to State parties' baselines and maritime zones' outer limits with the Secretary-General of the UN. Regional policy such as the Framework for the Pacific Oceanscape and donor support have emphasised the high priority that should be given to finalising maritime boundaries as a legal basis for PICs' maritime jurisdiction. The certainty provided by fixing maritime boundaries, declaring normal baselines on official large scale charts, and depositing information on baselines and maritime limits as required under Articles 16(2), 47(9), 75(2) and 84(2) of UNCLOS[27] will put PICTs in a stronger position in the face of potential loss of maritime space due to rising sea levels.

Baselines and maritime boundaries

Progress in depositing information relating to baselines and registering the maritime boundaries of the Commonwealth Pacific small states has been steadily pursued over the years, with the support of SPC's Geoscience Division, the Commonwealth Secretariat, the Forum Fisheries Agency, UNEP's Grid Arendal, Geoscience Australia and the Australian Attorney General's Department. By 2017, 12 PICs have lodged information regarding their baselines and steady progress has been made in lodging maritime boundaries and in some cases, maritime zones legislation with the UN (SPC 2016c).[28]

Shared boundaries

Shared maritime boundaries add a layer of complexity and time investment, but progress has been steady and 36 maritime boundary agreements have been signed so far with approximately 13 yet to be negotiated.[29] Some work remains, e.g. the treaty between Vanuatu and Solomon Islands signed in October 2016 has yet to be deposited with the UN. FSM has deposited information relating to its maritime boundary agreement concluded with Palau without its baseline coordinates being deposited. Similarly, Tonga has lodged its agreement with France regarding Wallis and Futuna without depositing its baseline coordinates or charts.[30]

Extended continental shelf

Technical assistance (by the Commonwealth Secretariat and others) is also being provided to countries for the submission and defence of claims for the Extended Continental Shelf beyond 200 nautical miles. Preliminary indicative information has in most cases been replaced by full, partial or joint submissions – as of early 2017, 11 PICT submissions have been lodged with CLCS totalling some 2 million km^2, seven of these pertaining to Commonwealth Pacific small states.[31] FSM, PNG and the Solomon Islands will shortly receive recommendations from the CLCS regarding their joint submission relating to the Ontong Java Plateau. Fiji, FSM, PNG and the Solomon Islands may still require support for the presentation and defence of other related submissions.

Areas beyond national jurisdiction

The Pacific Islands Regional Ocean Policy (2002), subsequently reinforced by the Framework for a Pacific Oceanscape (2010), made clear the region's interest in managing the areas beyond national jurisdiction, both the seabed and the water column. In July 2014, Pacific Islands Forum Leaders endorsed the 'Palau Declaration - The Ocean: Life and Future, Charting a Course to Sustainability', which included the following statement:

> *We support a decision in favour of launching negotiations by September 2015 for an International Agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.*

In June 2015, the United Nations General Assembly adopted a resolution to develop an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction. This resolution established a preparatory committee, which will report to the General Assembly in 2017 on its progress. The instrument on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction (BBNJ) will be developed based on the following elements:

- Marine genetic resources, including questions on the sharing of benefits.
- Measures such as area-based management tools, including marine protected areas (MPAs).

- Environmental impact assessments.
- Capacity-building and the transfer of marine technology.

Despite calls for the protection of the high seas pockets dating back to the Noumea Convention of 1986, MPAs have not been established in the ABNJ covered by UNCLOS. Instead, Southwest Pacific countries have been able to progress protection of marine biodiversity in ABNJ through the adoption of fishing regulation measures through the framework of the Western and Central Pacific Fisheries Convention and the work of the Commission. In addition, under implementing arrangements of PNA, there is an explicit closure of the high seas pockets to purse seine fishing (Rochette *et al*. 2014; Druel *et al*. 2012; Pratt and Govan 2010), and this highlights the potential to build on these experiences for the practical measures for marine biodiversity protection in the ABNJ.

5.2.4 National governance, policy and institutions

While recent regional policy has apparently improved the uptake and functioning of regional agencies, there are less indications of the impact of regional policies on national policy development and legislation. Some insights into national policies are provided below.

Fisheries management

The primary fisheries legislation in Commonwealth Pacific small states is relatively up to date and, except for Fiji and Nauru, dates between 2002 and 2015 (Govan 2015a).

Access to and regulation of tuna fishing within the waters of PICs broadly follows the various regional agreements and is regulated at the national level. Almost all PICs have prepared national Tuna Fishery Development and Management Plans or the equivalent with varying degrees of implementation to date (World Bank 2016b). Only Kiribati, Samoa and Solomon Islands of the nine Commonwealth Pacific small states have a coastal fisheries policy, and one of these is currently being updated. Fiji and PNG are in the process of drafting such policies (Govan 2015a).

The national fisheries agencies are government departments or ministries dependent on annual government spending allocations and priorities, except in the case of PNG, which has a statutory authority and its own revenue from fisheries levies. Operational (as opposed to project or development) budgets are expected to reflect the long-term commitment of governments to fisheries agencies. Commonwealth Pacific small states data for 2012-2013 suggest that these totalled about US$50 million (excluding PNG amounts to US$10 million), and of these budgets less than 20 per cent was estimated for coastal fisheries development and management. About 870 staff (580 excluding PNG) were employed in these nine countries and between 20 and 50 per cent had at least some coastal duties (data from Govan 2015a).

Significant costs in negotiating access arrangements or managing resources are likely borne by other public agencies and departments (World Bank 2016b). For example, significant tuna fisheries management costs in the Pacific are borne by regional

agencies and often via donor funding sources, while coastal fisheries management efforts are often heavily supported by non-government organisations (NGOs) (Govan 2013a).

Environmental management

According to the latest assessment of the state of conservation in Oceania:

> *most of the Pacific island countries have made commitments to the main biodiversity Multilateral Environmental Agreements (MEA), in particular CBD. However, overall, the current status of domestic law within the Oceania region related to international environmental law is considered to be low. Most States have not enacted specific or comprehensive legislation to enable compliance with their obligations under relevant Conventions and MEAs, and existing laws do not predominantly address these obligations.*
>
> (SPREP 2016)

Of the Commonwealth Pacific small states, only Samoa is considered to be fully implementing the CBD through domestic law.

Parties to the CBD are required to develop National Biodiversity Strategies and Action Plans (NBSAPs), the principal instruments for implementing the CBD at the national level. Some progress is reported for all states towards meeting most targets of the CBD Strategic Plan 2001–2010 but 20 out of the 21 targets have seen little or deteriorating progress, and none of the NBSAPs had yet incorporated the Aichi Biodiversity Targets.

While PICTs have laws related to environmental impact assessments (EIAs), many of the laws and policies are too broad and urgently require more specificity. In particular, there is a need for international standards to be applied in the EIA process so that a defined and agreed standard of this important environmental management tool is met.

Only PNG has designated its environmental agency as a statutory authority, although in this case its opportunities for raising revenue are not so promising as in the fisheries sector. While data relating to public expenditure on the environment are scarce, an unpublished study (Govan 2015b) estimates that five of the Commonwealth Pacific small states (Fiji, Kiribati, Tonga, Solomon Islands, Vanuatu), together invest less than US$2 million per year on the operational or recurrent budgets of the environment departments. This is a very low figure compared to regional and national donor projects or initiatives (although it is doubtful that projects achieve sustained management or enforcement).

Leaders of PICTs, with the encouragement of international NGOs and philanthropic foundations, have made Large Scale Marine Protected Area declarations. Kiribati established the Phoenix Islands Protected Area and World Heritage Site in 2006 and other declarations include those of the Cook Islands Marine Park (2012) and Palau Marine Sanctuary (2015). Territories have been active too, with declarations of the Mariana Trench Marine National Monument (2009), Natural Park of the Coral Sea by New Caledonia in 2014, Pitcairn's Marine Reserve (2015) and the Motu Motiro Hiva Marine Park in Easter Island/Chile (2010).

Deep sea minerals development

Cook Islands and Kiribati have national deep sea mineral (DSM) policies that underwent public consultation before being finalised. In Vanuatu, again following a public consultation process, a DSM policy has been completed and submitted to cabinet for adoption. A draft DSM policy has been developed for Tuvalu that was scheduled to be discussed in national public consultation to be held in August 2016 (SPC 2016d).

Cook Islands, Tonga and Tuvalu have legislation that specifically covers management of national DSM. Cook Islands has DSM licensing regulations providing more detail to their regime for DSM exploration. Tonga is currently developing DSM Trust Fund Regulations that should be finalised by the end of 2016. Fiji, Nauru, Tonga, and Tuvalu also have laws enacted to regulate their sponsorship of DSM activities in the ABNJ.

These legal instruments have been produced under the auspices of the SPC-EU DSM project, which produced regional legislative, financial, environmental and scientific research frameworks and guidelines. Other countries (FSM, Kiribati, Marshall Island, and Niue) were drafting DSM legislation under this project (SPC 2016a). The Pacific is more active in DSM matters than other regions, and these national DSM policies and laws have set a global precedent. These laws include a number of good governance measures aimed to promote transparency and accountability in DSM management.

Other countries (Fiji, PNG, Solomon Islands, and Vanuatu) have onland mining laws that to some extent cover offshore DSM activities. PNG is reviewing its mining laws, which will cover DSM.

Traditional environmental governance

Traditional tenure and ecological knowledge may also be considered assets for the region, having very tangible benefits in terms of both the restriction of access or certain activities in customary areas, and the prevailing cultural sense of stewardship that affects resource management decisions at the local level. Given that over 90 per cent of land in the Commonwealth Pacific small states is under customary ownership, and given the largely rural population, the importance of these non-formal mechanisms is perhaps under appreciated. Under some definitions, customary land could be considered a protected area and, certainly, the rights systems that exists provides a good basis for co-operative management between communities and government (Govan *et al*. 2009; Govan and Jupiter 2011). The role of traditional environmental governance or customary tenure is well documented in the management of coastal fisheries.

Traditional governance was included in the latest review of the State of Conservation in Oceania and its current status was rated as 'Good' noting also that:

> *though customary law is unwritten in most Pacific island countries, it is widely recognised and embedded in supreme law in most countries. Indigenous law plays a vital and influential role in the conservation of biodiversity across the region and is being increasingly recognised as doing so.*
>
> (SPREP 2016)

Subnational environmental governance

Decentralisation of governance is a logical step towards ensuring that government services for resource management are able to be delivered at the community level, which is particularly important for land and coastal fisheries management, as well as the enforcement of EIAs, forestry or mining codes of conduct and licences. However, with the exception of PNG, the other Commonwealth Pacific small states do not seem to provide adequate financial or human resources to empower provincial or district levels, particularly in the fisheries and environmental sectors (Govan 2013a,c, 2014a, 2015a, 2016, Govan *et al.* 2013).

5.3 Key issues

5.3.1 Fisheries

Offshore fisheries

Bigeye Stocks under threat and poor management of the high seas

Despite overfishing for more than ten years and recommendations in place to ease pressure on bigeye tuna stocks, current management measures appear to be insufficient. Unfortunately, small bigeye are being caught through purse seine fishing for the major skipjack fishery and larger bigeye are being caught by longlining in the countries that do not benefit from the skipjack fishery (e.g. Fiji, Tonga and Cook Islands) and a large proportion are caught on the high seas where there is a lower level of management rigour and accountability.[32] Obtaining support from Distant Water Fishing Nations (DWFN) on effective management measures has so far proven elusive.

There are concerns that the current management measures for the high seas under the WCPFC are proving ineffective and, if repeated calls to implement specific management measures are ignored,[33] rather than seeking other global mechanisms for managing the high seas (as for instance those under discussion in the UN BBNJ Preparatory Committee process) it is more appropriate to give greater consideration to coastal state management of enclosed, substantially enclosed and adjacent high seas areas, or to closure of high seas areas for conservation management of highly migratory species[34].

Pressures on regional solidarity[35]

The region has had several notable successes over the last four decades in banding together for the purpose of negotiating better terms with DWFNs who historically have preferred bilateral negotiations. Regional solidarity has been emphasised in various declarations and by lead agencies themselves. However, on occasions, foreign countries have successfully applied pressure on some countries to ignore regionally agreed terms and conditions.[36] The terms of bilateral agreements, on the other hand, are usually confidential. Maintaining regional solidarity and resolving differences between PICs in the interests of improving overall benefits is an ongoing concern (Gillett 2014; Aqorau 2016).

There are also pressures on regional solidarity from development and trading partners, particularly arising from the success of PNA, which has made impressive progress in recent years by developing a management system that maximises returns to countries and also promises sustainability of stocks (Toroa Strategy 2016; Tarai, 2015; Aqorau 2015; PNA, 2016a; Tarte 1998). In recent years, there have been some instances that have undermined the PNA arrangement (Aqorau 2016). With the success of the PNA, the US Treaty terms became less favourable. Almost all the efforts of the US fleet occur in PNA waters so PNA members wanted the US Treaty to apply the VDS management scheme with commercial market rates, and they also wanted the flexibility to apply national laws in their EEZs without US consent. However, as the US Treaty had a US Government aid component, shared between all the countries (PNA and non-PNA members), the stakes were very different for PNA and non-PNA countries. This tension placed the FFA, negotiating on behalf of its members (PNA and non-PNA), in an awkward position with its wider membership and the PNA Office. It inevitably put strain on regional solidarity and undermined the smooth functioning of PNA management arrangements and potentially the sustainability of stocks.[37]

The negotiation of a regional Comprehensive Economic Partnership Agreement with the EU also provoked tensions within the region as there were differences in fisheries interests between the PNA, non-PNA, and the EU. PNA members were concerned about the EU's poor track record of conservation in other oceans as well as perceived attempts by the EU to use the Agreement's terms to exert control over the region's fisheries.

In addition, New Zealand in 2015 pushed for the development of a framework for a quota-based management system[38] at the Pacific Islands Forum Leaders Meeting. This caused consternation as the advantages of a catch-based management system over the increasingly successful effort-based system (VDS) had not been supported by independent studies. A Fisheries Task Force, chaired by the Pacific Islands Forum, considered the evidence and concluded that 'there is no need to change the management of the purse seine VDS in the foreseeable future'.[39]

These examples demonstrate the vulnerability of existing 'regional' architecture to individual country interests, particularly if these are lobbied by external parties. This has led Aqorau (2015) to warn that wider regional approaches as opposed to subregional ones may not be appropriate in cases where resources or interests are not equally shared:

> *Having a single region arrangement is useful for some purposes, but not for others. It is clear though that single region arrangements are normally determined by the lowest common denominator. This is known as the Niue factor. In regional fora where decisions have been traditionally made by consensus, a small country such as Niue – with for example no US fishing in its waters and no trade with the EU – can prevent the best overall outcomes because their interests also have to be taken into account.*

Illegal, unreported and unregulated fishing

IUU fishing is justifiably of concern in the crucial tuna fisheries. The results of a recent study (MRAG 2016) estimated that the total value of tuna lost by the region to

IUU is over US$600 million, which has been widely reported in the media. A closer examination of the study reveals that while some activities are illegal, they may not necessarily result in direct losses to PICs, and of the risks quantified, the three forms of unlicensed fishing (i.e. what might be normally associated with 'pirate' fishing) collectively accounted for only around 3.4 per cent of total ex-vessel IUU value. The full value of the fish taken illegally would not be returned to PICs under normal circumstances and thus the actual rent losses to PICs are estimated to be around US$150 million or less.

Countries and regional organisations are making progress in dealing with IUU. For example, an important benefit of the VDS, as currently structured, is that the vessel's capacity to pay, and therefore the price received by countries, is influenced by the catch and profitability of the catching vessel. Therefore, as fishing companies compete for a limited number of VDS days, it is probable that the potential economic losses are actually captured by the market prices paid for VDS days, reducing the need for IUU fishing. This also highlights the value of the VDS system compared with the quota-based management system discussed above.

Mismatched tools: protected areas in the context of migratory species

The energetic promotion of Large Scale Marine Protected Areas has potentially misled some decision-makers. For instance, President Anote Tong of Kiribati stated that:

> *The closure of the Phoenix Island Protected Area will have a major contribution for regeneration of tuna stocks, not only for us but for our global community, and for generations to come.*[40]

However, as tuna are a highly migratory species, protected areas are generally not considered the most suitable management tool[41] and would have to be assessed along with other tools before protected area commitments were made. In one of the few cases where appropriate bioeconomic modelling has been carried out, it has shown that high seas closures have a negligible effect on the bigeye tuna biomass, and that the most efficient management policies relate to the control of FADs and restricting longline fishing in spawning areas (Sibert *et al*. 2012).

In the absence of integrated governance and management approaches that ensure the application of appropriate management tools in a zoned or spatially planned approach to meet the national and regional priorities, the promotion of LSMPAs poses very real risks to national income and the biological stocks from which these derive. As greater proportions of EEZs are enclosed, fishing effort has been observed to shift into adjacent high seas where, as noted above, the rules of fishing are less rigorous and vigorously applied and the rents do not accrue to PICs.[42] There have so far not been any independent studies of the costs and benefits of LSMPAs compared to other management options, and this is part of a wider discussion pursued below.

Maximising rents

Pacific Islands Forum Leaders have identified areas where PICs can enhance the economic value of the tuna fisheries without increasing production; for instance, by

increasing the proportion of the value received in access fees for longline fisheries, which has been far lower than purse-seining, especially in recent years (e.g. 3-5 per cent for longline versus 7-13 per cent for purse seine).[43] Other suggestions (long reiterated) include increasing local employment by increasing tuna processing in Melanesia, prioritising supply to Pacific island processors, increasing the local crew for fishing vessels, seeking higher-value products for consumers willing to pay more for Pacific-branded sustainably caught tuna and progressive restrictions of fishing on the high seas by non-PIC vessels. To increase local fishing vessels, there are proposals for joint ventures with foreign vessels, but this may prove challenging, as local vessels may be older and thus less efficient. Of more concern, local vessels may soon face challenges complying with international agreements, such as MARPOL on ship-based emissions or the Montreal Protocol on older refrigerants, such as those used on older ships (R. Awira, PIFS, personal communication).

Coastal fisheries

There is generally consensus that coastal fisheries are reaching breaking point and in many places show signs of over-exploitation, especially in areas close to population centres and for fishery products in demand by the rapidly growing Asian economies (Gillett 2014; SPC 2013; Pauly and Zeller 2016). The coastal fisheries are also negatively affected by habitat degradation, which results from destructive fishing practices, pollution, siltation from mining/logging, urbanisation and other competing uses of the coastal zone (SPC 2008).

The lack of coastal fisheries statistics in most countries of the region reflects the minimal attention to and management of coastal fisheries. Aside from a wealth of anecdotal evidence, there are several factors that support urgent calls for more attention to be paid to coastal fisheries management.

Despite continued development efforts, coastal fisheries are likely close to their biological limits as overall production has not increased unlike in the offshore sector (Figure 5.10). In addition, given that coastal populations continue to increase, the per capita production of fish from coastal fisheries actually decreased at a rate of approximately 6 per cent in the period 2007-2014. This is considered a remarkable decrease in such a short period and has been described as a 'wake-up call' (Gillett 2016). Many of the commercially important export fisheries of coastal areas have gone through boom-bust cycles or collapsed, such as bêche-de-mer, trochus and pearl oyster.

In contrast to improvements in national and regional tuna fisheries management frameworks, there has been limited improvement, or even a decline in, management within the coastal fisheries sector (Gillett and Cartwright 2010; Gillett 2016). With a few exceptions (e.g. Samoa), governments have not invested in effective coastal fisheries management, although there has been some success in applying restrictions on high-value export coastal fisheries (bêche-de-mer, shark fin, trochus) (Gillett and Cartwright 2010; Govan 2015a).

Issues confronting effective government contributions to coastal fisheries management include (Gillett 2016; Govan 2013, 2015a; Gillett and Cartwright 2010; SPC 2013):

- Promotion of coastal fisheries 'development' (e.g. expensive fisheries centres or provision of boats and gear) without due consideration for sustainable management.
- Disproportionate government attention (budgets and staff) to offshore fisheries management compared to coastal fisheries management.
- Lack of support for decentralised government resource management, i.e. at island council, district or provincial level.
- Promotion of aquaculture, reef ranching and reef enhancement as a management tool with little evidence to suggest that this is an effective substitute for basic fisheries management actions.
- Promotion of 'alternative livelihoods' instead of less popular, but probably inevitable, restrictive management.
- Tendency for projects on current hot topics (e.g. marine protected areas or shark conservation) to divert attention from first establishing mundane but broader coastal fisheries management.
- An imbalance towards developing more policies without providing for the government institutional structures or resources necessary for implementation.
- Erosion of customary rights and traditional governance that forms a mainstay of current coastal fisheries management in many countries.

Traditional and local management forms the mainstay of current coastal fisheries management. Customary ownership or rights over the inshore area, whether legally acknowledged or not, have provided the basis for village leaders to restrict or control fishing effort from those outside the community and by community members. However, traditional management is eroding and facing possibly insurmountable challenges in the form of increases in population pressure and commercialisation of nearshore resources. In response, communities have been supported (mainly by NGOs, with the exceptions of the governments of Samoa and Tonga) in carrying out local or community-based management and by 2015, nearly 8 per cent of the region's more than 11,000 coastal communities, primarily in Fiji and Samoa, were documented as having received support to practise 'community-based' management.

Aquaculture

An independent review commissioned by SPC (Hambrey *et al*. 2012) concluded that:

> *Despite substantial efforts and large injections of research and development finance, mariculture development in Pacific Island nations has been very limited. This is explained by the nature of mariculture [its often demanding/high risk attributes], the manner in which mariculture has been promoted, and a range of more specific practical and economic constraints.*

Based on past experience, there does not seem to be significant potential for marine aquaculture. However, for areas that may still have potential, there needs to be a

fundamental change in approaching mariculture development, such as impartial and context-specific assessment and planning that includes more thorough and realistic market appraisals, estimates of production, distribution and marketing costs and specifically (based on Hambrey *et al*. 2012):

- better development planning of mariculture within the wider processes of economic development planning and/or integrated coastal management;
- more objective and informed project preparation and appraisal; and
- a greater role for the private sector as a key partner in any government or aid-promoted development project.

On the other hand, there is potential for freshwater aquaculture in supplementing marine fisheries production, particularly for subsistence (e.g. tilapia, given its apparent success in PNG). In addition, technical challenges are not expected to prove significant and climate change may favour production. For example, higher temperatures and rainfall may make tilapia farming feasible at higher altitudes in high islands, as well as some atolls. Therefore, freshwater aquaculture should be given priority attention. However, improved data and better assessments are still needed to determine with confidence the role that freshwater aquaculture might play in supplementing marine fisheries production (Bell and Taylor 2015; Bell *et al*. 2016).

5.3.2 Transport

Tanker, cargo, fishing and cruise shipping operate in different areas of the Pacific but with sometimes substantial areas of overlap. The expected continued growth in shipping increases the likelihood of interactions between the sectors and the risk of use interactions and subsequent oil or ship-based pollution (Kinch *et al*. 2010).

Port activities have land-based impacts, as well as placing pressures on the surrounding areas from chronic and accidental spillages, which most countries are ill-equipped to regulate. Contaminated ballast water[44] and encrusting organisms on ships present the risk of introducing invasive and alien species, of which the risks and mechanisms are an increasingly serious, but poorly understood, concern throughout Oceania (SPREP 2016).

There are particular concerns on cruise shipping compared to other shipping, as their routes pass through different, and often more pristine, locations than other major shipping. This poses different sets of risks related to invasive species or routine and accidental emissions of pollutants. Despite moves from the industry to self-regulate, the amount of solid and liquid waste produced by cruise ships is far higher than for other shipping, making it challenging for Commonwealth Pacific small states to monitor and regulate (Luck 2007; Kinch *et al*. 2010).

Historically, the motivation for registering ships in foreign open registries was avoiding stringent safety and environmental regulations in their own countries. However, a recent study (UNCTAD 2015) found no generalised difference between open and national registries, as far as the ratification and implementation of relevant international conventions were concerned.

The performance of Pacific Island Flag States in enforcing their environmental regulations on registered vessels has been either poor or unsatisfactory. This is mainly due to lack of resources, technical complexity or lack of political will. Unless Pacific Island Flag States agree to exercise their jurisdiction over such vessels, it could undermine the enforcement of MPAs and other arrangements for the conservation and sustainable use of EEZs (and ABNJ).[45]

Registries with a good track record usually host far younger fleets and keep a close eye on the compliance of ship-owners with international regulations. The registries with the youngest fleets among the top 35 flags were Hong Kong (China), the Marshall Islands and Singapore. However, the Marshall Islands registry has received mixed reviews, and concerns have been raised over its capacity to enforce its flag state responsibilities. There are also concerns regarding the benefits to the country in terms of cash or investment from the Registry, which is managed by a foreign company (Manoni 2012; Buchanan 2012).

Tuvalu has also faced issues with its ship registry. In 2012, after initially registering Iranian oil tankers under its flag, Tuvalu subsequently deregistered them to avoid international sanctions by the US and EU, who at the time had sanctioned Iran's oil exports due to its nuclear policy. Tonga, on the other hand, closed its registry in 2002 when it faced the same criticisms over flagging North Korean vessels involved in arms and drug smuggling.

Where major open registries are located, emissions from maritime transport are of increasing concern as it is difficult to regulate emissions and other environmental impacts, such as ballast water. Therefore, while PICs will continue to be attracted to the economic opportunities of open registries, given the substandard practices associated with them, it raises the risk of a major maritime mishap, unless registration requirements are standardised and benefits to countries are maximised (Buchanan 2012). In the meantime, more consideration needs to be given to maritime disaster response.

Nevertheless, there are opportunities for reputable registries, whose vessels will be less targeted by port state control authorities, making these registries more attractive to ship owners. In addition, registries with younger and better maintained ships will be better able to comply with regulations and, if the IMO lowers global limits on carbon emissions (as has been called for by Pacific Leaders with the notable exception of Cook Islands[46]), PICs that have younger fleets will have a competitive advantage over others.

5.3.3 Tourism

Tourism growth may increase pressures on coastal or ocean resources, requiring improved planning processes and environmental regulation to reduce the risks of habitat degradation and overdevelopment. Land-based impacts on coastal resources are already serious concerns and increased pressures from tourism will be hard to control in many of the countries with already strained regulatory systems. In light of such impacts, concerns relating to the equitable distribution of benefits from tourism to local communities require further consideration.

As tourism grows, the expansion of cruise shipping will introduce a series of environmental and socio-economic considerations, which may have disproportionately adverse effects in relatively small and fragile island settings. Cruise ship environmental impacts may include (Johnson 2002; Thomas 2015):

- Infrastructure impacts (e.g., degradation of coastal/marine habitats due to the construction of terminal facilities, use of local natural resources for construction, dredging and dumping of spoil.
- Operational impacts (e.g., consumption of local resources by ships, water and air pollution, and damage caused to marine ecosystems by ships).
- Distribution impacts (e.g., associated with passenger travel and industrial supply chain logistics);
- Use impacts (e.g., cultural impacts on the local community, as well as disturbances to wildlife and natural environments);
- Waste impacts (e.g., from garbage, oils, sewage and other hazardous waste generated by ships).

In addition, the economic benefits of cruise shipping need to be carefully balanced against the risk of undermining social and cultural assets. Therefore, it will be important to learn from the Caribbean experience, as the Caribbean has had a longer history of cruise shipping than the Pacific.

5.3.4 Emerging sectors

Deep sea minerals

The feasibility and potential economic benefits of DSM are uncertain. Likewise, the potential environmental and social impacts, and risks, of DSM are also uncertain.

Environmental impacts are expected to vary depending on the phase of development and type of activity: DSM prospecting is expected to have minimal impact, DSM exploration is expected to have minimal to moderate impact (when test mining is considered), and DSM exploitation is expected to have severe and potentially permanent impacts at the mine site (SPC 2016d)[47]. It will be important to also account for the impact of waste, increased shipping and spillages, as well as the impact on other economic resources, such as tourism or fisheries. The impact of DSM on the globally important Pacific tuna fisheries or the locally vital coastal fisheries is under preliminary assessment.[48] PICs are not anticipated to invest in deep sea mineral processing due to the substantial water and energy requirements, which many PICs will find difficult to meet.

Unknown or potential environmental impacts on livelihoods (e.g. fisheries or tourism) might lead to social impacts and risks. Concerns have also been voiced over the types of jobs and dependencies created, although these may be relatively unfounded given the small numbers of jobs envisaged.

Given experiences with land-based natural resource extraction, particularly in PNG, there are noteworthy concerns related to the governance and distribution of DSM

revenues within society and with future generations (SPC 2016e; World Bank 2016c; Blue Ocean Law 2016). Most PICs lack the adequate fiscal regimes to ensure that they maximise the benefits while minimising the risks; namely the so-called 'resource curse', which can harm national export industries and lead to overspending and corruption, if revenue streams are not adequately safeguarded. In addition, there is limited institutional capacity to deal with DSM issues. Establishing the institutional capacity and regulatory framework for DSM is also very costly (in the order of US$2 million), with projected annual operational expenditures of around US$200,000 (World Bank 2016c). To put this into context, the total fishery department budgets in Commonwealth Pacific small states (excluding PNG) range from US$0.5 to US$2 million. Even increasing the budget allocation for coastal fisheries management has made slow progress in almost all countries (World Bank 2016c; Govan 2015a) and it would likely be even harder to meet the costs of DSM activities.

Environmental impact assessments will also be vital in the management of DSM and it is important to learn from the experience of land-based development to avoid its pitfalls: insufficient quality control exercised over EIA reports; weak compliance monitoring and enforcement; and low levels of public engagement and participation in EIAs (Bradley and Swaddling 2016). Many PICs have relatively weak environmental regulation so those that are exploring DSM development must ensure a better understanding of the role of EIA, apply EIA rigorously and continually improve EIA systems to maximise the positive development outcomes of DSM.

Given the above uncertainties and challenges, there is a strong case for a precautionary approach to DSM, with improved/appropriate stakeholder participation, including from civil society, customary owners and indigenous peoples (Blue Ocean Law 2016). Long range planning, better fiscal management and appropriate financial models for rent distribution are needed to ensure permanent benefits, as well as avoid the risks that windfall resource wealth can have on the economy. Sovereign wealth funds or similar mechanisms are strongly recommended (SPC 2016d; World Bank 2016c), but will require wider consideration in the context of national governance.

The emergence of DSM, among other factors, makes the case for moving towards integrated ocean planning and management at the national and even regional scale. However, this will require national capacity development and, at the regional level, appropriate mechanisms that may offer the pooling of technical capacity.

There is reported to be increasing PIC interest in formalising regional co-operation and support for various aspects of DSM. This could build on aspects of the successful regional management of tuna, where regional technical agencies and political island groupings have been able to maximise returns. Although the differences between managing living and non-living resources are significant, there are still strong arguments for ensuring a level playing field in terms of robust environmental, social and fiscal provisions and the rigorous application of a precautionary approach.

The structure and function of formal regional co-operation are yet to be broached with leaders and aspects such as whether such an arrangement should have a regulatory function or be limited to technical co-operation service provision, will need to be assessed (World Bank 2016c).

Bioprospecting and marine genetic resources

Genetic resources found within the EEZ (the water, soil or subsoil) are subject to national jurisdiction, including access and benefit sharing (ABS) laws and regulations. Their conservation and sustainable use also fall under CBD and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation.

The Nagoya Protocol sets out legally binding core obligations for its parties to take the necessary legislative, administrative or policy measures in relation to access to genetic resources, benefit-sharing and compliance, but there are very few specific laws dealing with bioprospecting and ABS in SIDS (Commonwealth Secretariat 2014; Vierros *et al.* 2016), and only Fiji, Samoa and Vanuatu of the nine Commonwealth Pacific small states have ratified the Nagoya Protocol to date (CBD 2016).

Marine genetic resources sourced from ABNJ are not covered by the Nagoya Protocol. Biodiversity in this part of the ocean falls outside the jurisdiction, ownership and protection of any one state or international agreement. It is conceivable, however, that the genetic diversity within the high seas pockets and on the margins of the Pacific island EEZs will be biologically related to that of its surrounding states. Therefore, these areas beyond national jurisdiction could represent a legal loophole when considering place of origin and the respective sharing of benefits, which will need future consideration.

The development of a new implementing arrangement under UNCLOS that will cover biodiversity beyond national jurisdiction is an area where Pacific SIDS are encouraged to actively participate. MGRs may well occur across multiple jurisdictions (Oldham *et al*. 2013), as well as in the ABNJ. This suggests the need for increased technical support and possibly the creation of regional regulatory and institutional ABS frameworks which also consider revenue-sharing and will also be of use for the development of ABS regimes in the ABNJ under UNCLOS. To this end, the CBD Secretariat and SPREP have initiated capacity-building at a regional level.

It is worth pointing out that there is little evidence of systematic commercial scale development of MGR from ABNJ to date and that this is dwarfed by the commercialisation of marine biodiversity from shallower waters, primarily within areas of national jurisdiction. While the potential for development has been widely stated, a more realistic appreciation of this potential awaits further studies and commercial trials and experiences (IUCN 2013), but it is nevertheless appropriate for PICs to ensure that they maintain access either to direct or non-monetary benefits, such as bioprospecting/biodiscovery collaborations at institutions (e.g. USP and UPNG) or involvement of communities in the collection aspects (Aalbersberg in Vierros *et al*. 2010). The samples collected during DSM exploratory activities may subsequently be found to have scientific interest and perhaps ultimately commercial value, highlighting the cross-cutting nature of the need to safeguard PICs' rights to such benefits, regardless of how the samples were obtained.

5.3.5 Environmental pressures and threats

The status of marine and coastal environmental indicators for Oceania is mixed or deteriorating (SPREP 2016; Center for Ocean Solutions 2009; Chape 2006; Kinch *et al*. 2010). Most pollution in the ocean originates from sources on the land - increased nutrients in run-off and coastal waters causes algal blooms, reduction in water quality, and disease outbreaks, and affects key ecosystems, such as coral reefs, and consequently, related food webs. Sewage (both domestic and from livestock) has been a problem, particularly in tourism-dependent areas and may contribute to algal blooms, as may increased nutrients from other sources, such as leached fertilisers from agriculture.

Runoff from deforestation and unsustainable land use is also a concern. Although it is less of an issue in Polynesia and Micronesia, commercial logging is a major cause of deforestation in Melanesia. Deforestation, combined with agricultural activities, increased coastal development, land reclamation and increased cash cropping throughout Oceania, causes sedimentation and habitat degradation in the coastal and marine environments. This reduces coastal protection and lowers fisheries productivity.

Oil spills and other chemical pollution from land is an increasing but little-documented threat, although there is evidence of ocean dumping of sludge from canneries (Gillett 2014). In addition, poor waste disposal practices on land result in the accumulation of waste, such as plastic in coastal areas and even in the deep ocean. Plastic affects marine life directly through ingestion, and indirectly, as plastic absorbs and amplifies existent toxins, which build up in marine animals.

Marine sources of risk include oil spills and other routine or accidental discharges associated with shipping, including anti-fouling chemicals, and concerns over the introduction of marine invasive species in ballast waters.

5.3.6 Geopolitical interests

Notable geopolitical forces are at play in the region, which may result in the projection of China's influence out into the Pacific through territorial claims and increasing naval strength and the reorganisation of United States military and political strategies to counterbalance this and secure the vital Pacific trade routes (Winchester 2015).

The larger geopolitical context may also include national defence and border security interests of lesser world powers, such as Australia, and access to the region's natural resources. This mixture of foreign and regional interests may provide explicit opportunities, such as joint patrolling for illegal fishing vessels while also monitoring the movement of immigrants or illicit drugs.

Geopolitics may influence apparently unrelated areas, such as the declaration of large MPAs or tuna management and licensing arrangements (Giron 2016), often with undesirable consequences for the PICs, as noted in the case of the US Tuna Treaty negotiations. Geopolitical interests may exert more pressure as management frameworks for sustainable exploitation for DSM or MGRs are developed. The worsening environmental security of PICs in the face of climate change, population growth or resource degradation may be considered as security risks for some of the larger regional neighbours. Calls to ensure that maritime boundaries and baselines

of PICs are all legally registered stemmed from potential legal implications should any of the islands constituting such baselines be totally submerged by sea level rise (Pratt and Govan 2010). The rationale for this is strengthened by recent examples of maritime claims being asserted via construction of artificial islands.

The development of free trade agreements does not always explicitly recognise the region's major natural assets. Notably, ocean and environmental considerations were a key issue in negotiations with the EU for a Comprehensive Economic Partnership Arrangement. However, similar considerations let alone broader environmental impact assessments were not explicitly considered during negotiations and studies for the proposed Pacific Agreement on Closer Economic Relations (PACER Plus) trade agreement between Australia, New Zealand and the PICs, despite a baseline study specifically highlighting environmental concerns (Nathan Associates 2007). The constraints on national and regional organisations in dealing with these situations are dealt with below.

5.3.7 Gender perspectives

With regard to gender perspectives on ocean resources, most studies relate to the fisheries sector, which can provide insights for consideration in other sectors. In addition to the obvious concerns about fairness, equal opportunity and discrimination, the role of women in the development and management of the fisheries sector needs to be taken into account (Tuara and Passfield 2011). Three areas of women's participation are deemed of particular importance: village-level fishing, general employment and employment in fisheries management

The participation of women in coastal fishing seems to vary substantially depending on country and culture. For Commonwealth Pacific small states, women's participation in coastal fisheries varies from equal participation (e.g. in PNG and Fiji) to only around 20 per cent (e.g. in Tuvalu and Samoa). The general perception is that at the village level, fishing for fish is led by men, while fishing for invertebrates is the domain of women. However, this may not represent the reality on the ground, especially in rapidly evolving societies. For instance, women in the Solomon Islands do a great deal of fishing, accounting for well over half of the subsistence catch and, increasingly, fish to generate income through market activities (Krushelnytska 2015). It is without doubt that women's fishing is crucial for a coastal community's food security and, increasingly, for cash incomes.

However, women are under-represented in decision-making, which reduces the available pool of expertise and knowledge for fisheries management. Although NGOs that facilitate community-based fisheries management usually include women in planning and decision-making, more than 90 per cent of coastal communities undertake traditional or local fisheries management without the presence of NGO support (Govan *et al*. 2009; Govan 2015). There is also reason to believe that, at least in some cases, women are strongly discouraged from contributing overtly to decision-making (Morgan *et al*. 2012 (re Solomon Islands); Kruijssen *et al*. 2015). Therefore, women's participation and status may not change in the long term or in the absence of NGOs.

In addition, the importance of women in fisheries employment appears to be frequently inaccurately reported, for instance by downplaying secondary activities or lumping fish processing with the manufacturing sector (Gillett 2009). Case studies (Tuara and Passfield 2011) in Solomon Islands, Tonga and the Marshall Islands showed that women made up 25 per cent of the total number of staff working in government fisheries, environmental institutions and environmental NGOs. However, over 60 per cent of the women were employed in administrative and clerical roles rather than in technical areas.

Men and women are both involved in all aspects of the tuna industry, with most women involved in processing (small-scale and commercial) and local marketing, while most men are involved in the capture and commercial marketing areas (Demmke 2006). While the positive impacts (such as earnings) of the industry are common to both men and women, the negative impacts (balancing domestic and work responsibilities, poor working conditions in processing factories, alcohol and drug abuse) weighed more on women.

Clearly, improving women's participation in Pacific fisheries, as well in other ocean-related sectors, merits much greater attention.

5.4 Promising responses

5.4.1 Pacific advocacy and leadership in the global arena

In recent years, Pacific SIDS (PSIDS) have made a significant impact in negotiations on key international UN frameworks, punching far above their weight. Their efforts have been recognised in advocating for a standalone Oceans goal during the SDGs, and support for the Implementing Arrangement on BBNJ under UNCLOS, and PSIDS have been instrumental in the Paris Agreement climate change negotiations (Fry and Tarte 2016; Quirk and Hanich 2016). Changing regional dynamics and groupings have sometimes emerged in which powerful non-island partners are not included (e.g. Australia, the United States or New Zealand on climate change).

Leaders of PICTs, with the encouragement of international NGOs and philanthropic foundations, have also taken early global leadership in establishing LSMPAs, as for example Kiribati, which established the Phoenix Islands Protected Area and World Heritage Site in 2006. These actions have raised the public profile of conservation and protected areas to the world and have arguably catalysed the declaration of ever-larger LSMPAs by other nations, but ensuring that this political will results in significant benefits for the people of the region will require further planning and analysis.

5.4.2 Regional Oceans Policy commitments

There is a burgeoning of regional policy commitments on the sustainable use and management of the ocean since the PIROP in 2005 and the FPO in 2010. There have also been various declarations by Pacific Islands Forum Leaders and ministers. Recognition of the need to sustainably manage fisheries (as opposed to previous decades of promotion of fisheries development) has been repeatedly stated by leaders and reflected in regional and subregional policies. Donors have often been quick to

align their programmes with the policy guidance. For example, the World Bank and Australia have supported key priorities under the FPO and there has been continued and refocused bilateral and multilateral support for fisheries by Australia, New Zealand and the EU.

There is also increasing evidence that this very healthy body of regional policy is having some influence over the development of national policies (e.g. draft coastal fisheries policies in Solomon Islands and PNG). However, the utility of these usually non-binding policies will depend on the degree to which they result in action or operational change on the ground.

In emerging areas, regional agencies and forums continue to assist countries to develop policy in areas such as DSM exploration and exploitation. Moves to integrate international agreements in regional implementations are also developing, particularly for the SDGs, CBD's Strategic Plan for Biodiversity 2011–2020, Aichi Biodiversity Targets and the SAMOA Pathway.

5.4.3 Optimising the region's tuna resources

Tuna governance and management arrangements have evolved rapidly over the past decade with the establishment of the Western and Central Pacific Fisheries Commission in 2004 as the internationally recognised body to govern tuna stocks. Frustratingly slow progress in the industry-dominated WCPFC has been offset by the emergence of the PNA, a highly promising model of subregional co-operation. The PNA countries and Tokelau have worked together to develop a practical approach to ensuring that purse seine access to their waters happens on more beneficial terms to the host nations, while allowing conservation limits to be set, and this has resulted in a significant increase in revenue.

Achieving such a complex fishery arrangement in the face of considerable opposition from powerful lobby groups suggests that the real success story lies in the adroit design and implementation of Pacific island consensus-building processes and choosing the appropriate constituency to invest in – namely those resource-owning countries with the most to offer and the most to gain. The outcomes were sufficiently impressive for a regional high-level review (Morauta 2013), to recommend investigation by PIFS of the merits of reforming the management of the Southern Albacore fishery and establishing a self-funding secretariat to assist PICs with the development of seabed mining along similar lines.

5.4.4 Community-led natural resource management

The region's communities have traditionally managed their inshore marine areas and resources under systems of customary tenure by which access to outsiders is strictly controlled and resource utilisation may be regulated at community level. These traditional systems still provide the mainstay of effective resource management in most countries, particularly as national agencies are challenged in providing the necessary services.

In recent years, the erosion of these traditional mechanisms (customary rights and traditional governance) has been somewhat counterbalanced by support from NGOs, with hundreds of coastal communities practising fisheries closures, protected areas and applying other management rules. However, to sustain effective systems of coastal fisheries and resources management that secure food supplies and other benefits for the island nations, it will be necessary to put in place co-operative management arrangements that support much more communities than currently is the case (only 8 per cent of coastal communities are recorded as receiving coastal fisheries management support (Govan 2015a)).

Although there is little information on the precise outcomes of these interventions, communities have embraced the approach and leaders have readily included it as the way forward in regional coastal fisheries and environmental policies.

5.5 Looking to 2050

The previous sections have explored the context, issues, challenges and promising regional responses which set the scene in identifying potential pathways to the achievement by the Commonwealth Pacific small states of the SDGs and the Forum Leaders' Vision for the Pacific region. This final section highlights areas that may constitute major obstacles, outlines key strategies and concludes with recommendations.

5.5.1 Major challenges

Some of the major obstacles to sustainable management and development of the ocean are externally driven, such as commercial and political pressures, not always unconnected, that can undermine regional and national processes. Climate change is also externally driven, in many cases by the same countries exerting the aforementioned commercial and political pressure.

Regional and national challenges include high population growth, largely unregulated exploitation of land-based and coastal resources and low national prioritisation and spending on land and ocean environmental management. The policy commitments to environmental management will need to result in similar paradigm shifts at the operational and financing levels for there to be a solid basis upon which to build sustainable development.

Response to foreign pressures

Pressures from both the extractive and conservation industries highlight the need for improved regional processes to respond to external pressures that may even be offered as assistance or best practice. These pressures can be expected to increase, perhaps very rapidly, if their geopolitical[49] dimensions continue to develop. The impressive success of the PNA and partners in maximising the benefits for a majority of the PICs from their main ocean resource, tuna, has been greeted with less acclaim on the global stage than one would expect. In fact, the basis and viability of the PNA's tuna management approach has been undermined and put under pressure

by development partners (often members of the CROP agencies), such as the EU, USA and New Zealand, at least in some cases in response to overt pressure from the private sector (USA). Financial and political incentives may be brought to bear to fragment regional blocs, exploiting differences in interests between the members, and pressuring regional agencies.

The negotiation of free trade agreements also falls into similar dynamics, sometimes explicitly over access to natural resources, such as tuna (the case of the Economic Partnership Agreement negotiations), or completely ignoring the potential impact on the natural resource base, such as in the development of PACER Plus – which has proceeded without any comprehensive social and environmental assessments. Trade preferences enjoyed by several PICs with the European Union may well be reduced in coming years, new free trade agreements may bring new opportunities and pressures, reduction in subsidies by foreign fishing nations may be slow, and the role of national processing may introduce challenges that require regional discussions on trade and foreign relations.

In addition, philanthropic conservation organisations and international bodies have encouraged PICs to make commitments to set aside 10-30 per cent or more of their jurisdictions for marine protected areas.[50] However, the advantages of such a target-driven approach are disputed (Agardy *et al*. 2016; De Santo 2013, Souto *et al*. 2014), and ensuring that these declarations result in actions that direct scarce resources and political will to managing the issues of primary concern in each jurisdiction (e.g. tuna) or priority threats may require skills that are not nationally available. Whether externally driven declarations align with or could be cost-effective contributions to national and regional aspirations to sustainably utilise their ocean asset base for sustainable development and poverty alleviation, are debates that are by and large yet to happen in Commonwealth Pacific small states. Despite promised external assistance, these commitments ultimately have national costs, which should be weighed publicly against the national or societal benefits compared to focusing on higher-priority threats or unmet resource management needs.

The 2012 Cook Islands Marine Park declaration may represent a model for achieving integrated ocean management and conservation through inclusive processes of consultation and spatial planning. On the other hand, Palau's closure of 80 per cent of its EEZ to extractive activities is not a model that less developed and more populous Commonwealth Pacific small states could afford to follow. Community groups have called for governments to focus on first achieving 100 per cent management of the marine area,[51] and these whole-of-jurisdiction approaches are the focus of the region's policies on oceans and coastal fisheries, but are generally unsupported by international lobby groups.

Recent experiences, such as lobbying for climate change action at the Paris conference and the PNA management of tuna, demonstrate the importance of ensuring the appropriate membership of regional groupings. In the former case, the developed country members of some regional groups have very different interests and positions to island states as do, in the latter, island countries with low tuna stocks or distant water fishing nations, compared to the tuna-rich islands. The very term 'regional

group' is a misnomer in this regard as WCPFC, with its wide membership from outside the Pacific islands, so far appears to have produced less beneficial action for the Pacific islands region than a so-called 'subregional' group in the form of the PNA. This suggests that groupings need to be designed fit for different purposes more akin to 'communities of interest'.

DSM may benefit from a regional approach but this will depend on whose interests dominate, and it would probably not be appropriate for developed countries to be included on an equal footing. In some instances, the lack of national in-house technical expertise and systems should not be replaced by regional technical agencies, or at least without firewalling the Pacific island community of interest. Providing balanced advice on ocean governance options has so far been a major challenge and countries tend to rely on NGOs or international lobbying. Identification of environmental risks associated with trade deals is a complex area and probably beyond the capacity of most national environmental agencies and yet, apparently, too politically sensitive for regional agencies to flag for appropriate impact assessments.

Emerging models of regionalism or 'communities of interest' will have to develop with care, in order to afford more regionally appropriate responses that maximise and sustain the benefits to countries from the limited natural resource assets at countries' disposal.

Lack of national investment in environmental management

Despite regional and national commitments to sustainable resource management, these expressions of goodwill are by and large not prioritised for implementation at national level, and would likely not even be feasible with the available capacity (Gillett and Cartwright 2010; Govan 2015a,b). The currently poor regulation and management of land-based extractive industries gives little reason for optimism in emerging industries, such as DSM.

In addition, despite their importance, the sustainability of coastal fisheries has been neglected by most national governments. Population growth, increasing commercial pressure and potential impacts of climate change mean that it is increasingly urgent to ensure that robust management systems are in place. Despite regional policies, inertia at ministerial level and outright lack of commitment to resource management is reflected in very low recurrent budgets and staffing levels.

National financial and human resource investment in routine management of the economically important tuna resources is low (except in PNG). Environment departments are also similarly under-resourced and, in most cases, lack the independence and 'teeth' necessary to be able to regulate and enforce environmental safeguards essential to the practice of sustainable development or 'green growth' to which most countries subscribe.

Land-based threats should not be excluded from consideration as the ocean will not make up for lack of arable land, vanishing water tables, unproductive forests and gardens, unmanaged waste and so on. Poor management on land has negative impacts on inshore resources, and as the example of plastics demonstrates, increasingly in the

open ocean. Poor care of home islands bodes ill for stated intentions of caring for ocean resources that are far out of sight.

The small size of many island states and the immense challenges facing governments in delivering environmental management services across their wide jurisdictions provide a strong argument for integrated island management. At the community level, but also at the level of national and provincial service provision, joint service delivery or indeed amalgamation of diverse agencies with resource management mandates to provide more ecosystem-wide services would be more efficient and cost-effective (Govan *et al*. 2011; Jupiter *et al*. 2013).

Capacity development will need to meet a series of challenges for scaling ocean and coastal management across jurisdictional boundaries and to the appropriate scales – from local to subnational to national to regional, but also in the very specific context of the diversity of Pacific islands (IASS 2016).

In short, despite a tendency to focus on the Pacific as a region, there is an increasingly urgent need to consolidate what is of use at regional and subregional levels, and shift attention to the national levels - ensuring that national progress is strategic, tailored to individual country needs and results oriented.

Inadequate fiscal regimes and revenue management options

Revenue from living and non-living natural resources can fluctuate, particularly in the case of living resources, or accrue as a windfall, as may occur through mining. Ensuring the intergenerational distribution of benefits, reducing the impact of fluctuations on small island economies, and ensuring the equitable sharing of the benefits across society, are or should be of particular concern to Commonwealth Pacific small states.

A first step to managing the fluctuation of revenue from exploitation of living resources and ensuring they benefit future generations is investing in resource sustainability through sound management and regulatory regimes. Windfalls, such as those expected from DSM, and extreme fluctuations, such as recent increases in tuna access fees, require revenue management measures. These can include public trust and sovereign wealth funds, funding investments to promote long-term growth, reducing fiscal deficits, or combinations of these. Indeed, recent experiences in the Pacific suggest that there are instances where increased tuna revenue has been used to replenish sovereign wealth funds, such as Kiribati's Revenue Equalisation Reserve Fund, and to develop resource management policies. There are also indications in some countries of increased revenue leading to increased short-term government expenditure (Boumphrey *et al*. 2016; Reid *et al.* 2016).

The windfall nature of potential DSM revenues, and the possible reductions in catches owing to the projected eastward shift in tuna stocks in a warming ocean, suggest the need for forward thinking. Concerns over the lack of public participation in the DSM sector highlight the need for more transparent and accountable consultations on natural resources management issues generally, including the appropriate strategies for investing in resource sustainability to secure long-term and equitable inter-generational benefits.

Population growth

The pressure placed by countries on ocean and coastal resources to cater for their development needs, both for extractive uses and as the recipient of waste and other impacts, is directly linked to population size. The overall population of the Commonwealth Pacific small states (around 10.2 million in 2015) is expected to increase by over 80 per cent by 2050[52], equivalent to an additional 8 million people. This trend will pose extreme development challenges in countries such as Solomon Islands, PNG, Vanuatu and Kiribati that are expected to face significant population growth and is likely to be the greatest threat to Commonwealth Pacific small states' ocean resources (Haberkorn 2008; Bell *et al*. 2015).

Based on projected population growth rates, combined with estimates of the maximum coastal fisheries production that may be expected for each country, it is estimated (Bell *et al*. 2009) that six of the nine Commonwealth Pacific small states will exhibit major deficits by 2035 and the remaining three will find it difficult to redistribute fish available rurally to the centres of populations (Table 5.4).

An important consideration, given the economic and other roles that coastal fisheries play, is what the cost of providing these services will be in scenarios where production cannot keep up with demand or collapses. The reduction in income (from coastal fisheries) would be compounded by the need to import higher-cost sources of food.

Table 5.4 Estimates of the maximum coastal fisheries production to 2020 and 2035

	Coastal fish production	2020		2035	
		Fish needed for food	Surplus/ deficit (-)	Fish needed for food	Surplus/ deficit (-)
GROUP 1: COUNTRIES EXPECTED TO HAVE A FISH DEFICIT					
PNG	81,260	81,860	–600	108,500	–30,090
Solomon Is	27,610	25,400	2,210	35,600	–7,990
Samoa	14,000	15,600	–1,600	15,700	–2,190
Kiribati	12,960	10,900	2,060	13,400	–890
Vanuatu	3,730	10,800	–7,070	14,000	–10,400
Nauru	130	700	–570	800	–670
GROUP 2: COUNTRIES EXPECTED TO HAVE DIFFICULTIES REDISTRIBUTING FISH TO URBAN CENTRES					
Fiji	77,000	31,100	45,900	33,700	40,610
Tonga	17,430	3,600	13,830	3,900	12,920
Tuvalu	9,530	1,300	8,230	1,500	7,700

Note: Indicative quantities of fish needed for food in 2020 and 2035 (as tonnes/year), and surpluses or deficits (-) in coastal fish supply, relative to the recommended 35 kg per person per year or traditionally higher levels of fish consumption, for two groups of Commonwealth Pacific small states based on expected population growth.

Source: Bell *et al*. 2009 and modified from Bell *et al*. 2015

Ensuring that population growth receives priority consideration in national policy in Solomon Islands, PNG, Vanuatu and Kiribati is as critical for the state of the ocean as it is for sustainable development and achieving the SDGs

Climate change

The impacts of climate change will vary markedly between islands, but some approximations and implications of the projected effects of climate change for the ocean and related sectors are shown in Table 5.5.

Table 5.5 Potential climate-induced changes on key Pacific island ocean resources by 2050 and 2100

	2050	2100
CORAL REEFS AND COASTAL HABITATS		
Together with the effects of ocean acidification (Johnson et al. 2016), ocean warming will result in degradation of coral reefs, reducing their ability to support fish. Stronger cyclones and heavier rainfall will damage reefs more frequently. Mangroves and sea grasses will likely be affected as well (SPREP 2016)	Coral reefs: almost all will be rated as threatened, more than half high, very high or critical. Seagrasses: 5–30% loss across the region by 2035	Mangroves: Decline in area of 13%
COASTAL FISHERIES		
Coral reef fish, nearshore pelagic fish (mainly tuna) and shellfish will be affected by habitat degradation; reduced spawning success owing to higher temperatures and impaired calcification of invertebrates including coral reefs owing to ocean acidification	WP: 10–20% decline in total production EP: 5–10% decline in total production	WP: 20–35% decline in total production EP: 10–30% decline in total production
TUNA		
Ocean warming and reduced productivity will make the Warm Pool less suitable for spawning, and an eastward shift in the convergence zone between the Warm Pool and Pacific equatorial upwelling is likely to drive redistribution of skipjack	WP: 1% increase in skipjack tuna biomass EP: 12% increase in skipjack tuna biomass	WP: 17% decrease in skipjack tuna biomass EP: 8% increase in skipjack tuna biomass
Aquaculture		
Freshwater aquaculture such as tilapia may be more feasible in elevated areas such as in PNG, but most types of mariculture will likely be less efficient		

Note: WP - West of 17°E (includes Nauru, PNG, Solomon Islands, Vanuatu). EP - East of 17°E (includes Fiji, Kiribati, Samoa, Tonga, Tuvalu).

Source: Bell *et al.* 2011, 2013, 2016; Bell and Taylor 2015; Johnson *et al.* 2016; SPREP 2016

In summary (Bell and Taylor 2015), the effects of changes to the atmosphere and ocean on fish habitats and fish stocks underpinning fisheries and aquaculture across the region are expected to result in winners and losers. Tuna are expected to be more abundant in the east, and freshwater aquaculture is likely to be more productive. Conversely, coral reef fisheries could decrease by 20 per cent by 2050, and coastal aquaculture is expected to be less efficient, while skipjack (and possibly other species of tuna) may increase in the EEZs of PICTs east of 170°E and decrease marginally within the EEZs west of 170°E by 2035 and 2050. By 2100, biomass of skipjack tuna is projected to decline substantially in the EEZs of most PICTs, except those in the far east-southeast of the region (i.e. Cook Islands, French Polynesia and American Samoa), which is projected to gain biomass of skipjack by 2050 (11-16%) and 2100 (up to 41%). However, it is estimated that the major shortfalls of fish for food in larger countries in 2050 and 2100 will be a result of population growth, albeit exacerbated by the effects of climate change (Bell *et al*. 2013).

The projected impacts of climate change are important to incorporate in medium- to long-range planning. However, as outlined previously, most Commonwealth Pacific small states lack adequate resource management systems to deal with more pressing short-term priorities and unless these core systems are strengthened and adequately financed over the long term, the merit of many of the current climate change investments is open to question.

5.5.2 Ways forward

The preceding sections serve to support what was best expressed by Epeli Hau'ofa (Hau'ofa 2008):

> *The importance of our ocean for the stability of the global environment, for meeting a significant proportion of the world's protein requirements, for the production of certain marine resources in waters that are relatively clear of pollution, for the global reserves of mineral resources, among others has been increasingly recognised.*

The Pacific region's resources have vast tangible and intangible value globally as well as from a purely utilitarian perspective, gauged in terms of approximate dollar value received by PICs or foreign nations (see Table 5.6). Fishery resources are the core asset for the moment and this is likely to be the case in the long term, with coastal fisheries being of almost equal importance as the offshore fisheries to the inhabitants of PICs. A healthy and attractive island and oceanic environment underpins the substantial potential of the other main industry, tourism, in various forms. Of note is the relatively low value, to island inhabitants of the much talked about DSM and, to a lesser extent, marine aquaculture.

Given the challenges outlined in the preceding sections, not forgetting the looming threats posed by climate change and population growth, the global importance of ensuring the sustainable management of the Pacific Ocean is a heavy responsibility, especially if we recognise the primary role of Pacific island countries acting in concert as asserted in the region's overarching ocean policy, 'Our Sea of Islands,

Table 5.6 Indicative yearly value of Pacific Ocean resources as received by PICs and non-PICs

	$$ to non-PICS/$$ to PICs	Potential	Risks and challenges
Oceanic fisheries		Some: increasing rent capture and domestic fleets and employment.	Short-term national interests or DFWN influence destabilises regional sustainable management.
Coastal fisheries		Small: sustainable management of some commercial stocks and improvements in marketing/ processing may increase returns.	Highly susceptible to unregulated commercial pressure. Current management inadequate.
Tourism		Substantial in some locations. New markets such as China and retirement homes.	Lack of environmental regulation could undermine the resource base and inequitable distribution of benefits.
Cruise		Good for home-based cruise ships and improved shore services.	Challenges in regulating various environmental pressures and capturing revenue locally.
Marine aquaculture		Limited to small depending on location, support infrastructure, market access and government policy.	Inadequate planning and understanding of business models and market chain, increase in severity of climate events.
Deep Sea Minerals		Some: some countries may receive relatively modest to medium incomes over short to medium periods.	Unkown environmental impacts and lack of capacity to enforce regulation. Inequitible distribution of benefits.
Marine Genetic Resources	-? -?	Small: mainly for participation in scientific capacity-building and partnerships.	Equitable access to benefits.

Note: ~US$100 million to non-PICs; ~US$100 million to PICs; Potential to non-PICs; Potential to PICs; Non-PIC/PIC distribution of value unclear

Source: Authors' calculation estimated from data presented in previous sections on landed value, contribution to GDP, tourism receipts, access fees and taxes.

Our Livelihoods, Our Oceania - Framework for a Pacific Oceanscape', which in turn encapsulates the words of Epeli Hau'ofa:

> *No people on earth are more suited to be guardians of the world's largest ocean than those for whom it has been home for generations.*
>
> *No single country in the Pacific can by itself protect its own slice of the oceanic environment; the very nature of that environment prescribes regional effort and to develop the ocean resources sustainably, a regional unity is required.*

The following section examines the concerted and individual actions that may be required to ensure that the value placed on 'integrity of our vast ocean and our island resources' realises the Forum Leaders' Vision under the Framework for Pacific Regionalism 'for a region of peace, harmony, security, social inclusion, and prosperity, so that all Pacific people can lead free, healthy, and productive lives'.

Shift the ocean paradigm from 'explore and exploit' to 'sustain and be sustained by'

The decades since the majority of Pacific island countries' independence have seen a heavy focus on national development based on discovering and mobilising national assets of global interest to generate much needed income – 'explore and exploit'. The increasing emphasis on Blue Economy and Blue-green Growth over recent years is held by some to prioritise the importance of maintaining a healthy natural resource base (Patil *et al*. 2016; Silver *et al*. 2015), but there are many, and not always compatible, interpretations. Although some promising signs are emerging in the region, it is by no means clear that there is a general shift in thinking, let alone action towards sustaining the resource base.

The shift in thinking required must not get bogged down in outdated views such as 'conservation versus development', but embrace more constructive visions of securing a stable natural resource base upon which to build sustainable development. The benefits of more proactively managing the shared tuna resource have become clear and it is important to draw the comparison that, though less obvious in terms of government revenue, management of coastal fisheries and related ecosystems has similarly obvious impacts at the community level and to the current and potential tourism development. Land-based resource management will need to be significantly improved, including more rigorous use of environmental impact assessments to avoid negative ocean impacts.

A genuine shift towards building the natural resource base for sustainable development would be reflected in actions such as ensuring that natural resource management is adequately financed and staffed with appropriate capacity. Although tuna management in the EEZs may currently be resourced, albeit with significant inputs from external partners, it may be appropriate to ensure more autonomy in the control of such a significant resource. Similar arguments can be made for future management of DSM.

Financing environmental management may be easily affordable in the offshore fisheries and DSM sectors, provided allowance is made for capturing an appropriate

proportion of the revenue. Coastal and island management undoubtedly requires re-prioritisation by most governments. However, options to reduce the burden may include capturing a proportion of the offshore revenues (such as in PNG), reviewing currently low commercial licensing fees and penalties, or more innovative approaches, perhaps establishment of long-term financing arrangement such as sovereign wealth or other trust funds, or perhaps capturing the increasing funds from climate change adaptation.

Although leaders may have to accept there will not be massive increases in revenue from ocean resources, there will likely be some, not least from better managed or rehabilitated stocks, and these improvements should more than offset management costs. Revenue management also raises issues of corruption and good governance which governments should continue to address as a priority.

Current progress in improving the proportion of benefits that remains in the Pacific through new or improved regional groupings may be applied to DSM and possibly cruise tourism or MGR. Where conservation actions have global benefits, or a disproportionate burden on island nations, it would be reasonable for these costs to be explicitly met from global sources. It would be interesting to explore similar arguments in the globally high stakes games of maritime transport or even defence.

Some of the region's intangible assets may tangibly improve sustainable development outcomes and should be recognised, supported and optimally used. A clear example of this is the reliance on traditional knowledge and customary rights over coastal areas and resources, which provide the current mainstay of coastal management in most countries.

This paradigm shift will also require a shift in capacity-building to support the region's approach to ocean and coastal management across jurisdictional boundaries and to the appropriate scales – from local to subnational to national to regional (IASS 2016 and Jeremy Hills, USP, pers. Comm).

Refining regional approaches to 'communities of interest' and reviewing the role of technical agencies

The regional architecture is rapidly evolving, with the emergence of new groupings with more select membership and also the expansion of existing regional groups to include more diverse members. Reviewing this experience should provide guidance on consolidating successful approaches, phasing out unsuccessful ones and developing appropriate new mechanisms.

The PNA successes illustrate the importance of defining the appropriate constituency or 'community of interest' in resource governance and ensuring that membership reflects the extent of shared stakes, which may be more important than political niceties or donor requirements (e.g. membership of the PNA). This will be a key consideration in decisions on inclusion of other tuna species in PNA type management arrangements, working with other major tuna resource users, such as Indonesia and the Philippines, or developing regional approaches to DSM.

The importance of process, as much as the outcome, is often overlooked by foreign agencies. However, it is intrinsic to the 'Pacific way', and some of the successful outcomes of regional groups may owe as much to the more appropriate way people interacted than to the membership or even legitimacy of the group. Ensuring that processes and spaces for interaction are appropriate and yet effective deserves far more attention in the evolving regional architecture.

The role of regional technical agencies remains important as in, for instance, the role of FFA in monitoring and surveillance, and SPC's role in leading research on shared tuna stocks. However, the technical agencies have at times been constrained in pursuing the best interests of PICs owing to their wider membership, which includes the interests of partners that are sometimes regional competitors. In addition, the rationale for the creation of pooled regional technical support is in need of review, given the growth of the client countries, to ensure that these agencies only substitute, supplement or build capacity towards autonomy as appropriate to individual countries. In some of the larger countries, in-house technical capacity, particularly for land and coastal management, is markedly deficient.

Ensuring that regional commitments, agreements and policy guidance result in national implementation is a challenge. Recent moves to ensure contextualisation and streamlining of reporting on the SDGs, SAMOA Pathway and FPR indicate appetite for strategic approaches to working with partners to achieve national priorities and international commitments. Hopefully, the SDG 14 on Oceans will be reflected at the national level in an integrated way and as an integrated approach, which will stand a better chance of gaining national traction.

Whole-island and whole-ocean approaches

The interrelatedness between the various terrestrial and marine natural resources and all aspects of island life require a major shift from current models of serial and sector-driven depletion towards a whole-island/whole-ocean approach. Current tensions between the conservation and fishing sectors at oceanic scale, as well as the lack of integration of the wider interests of PIC society in this debate, illustrate the need for more inclusive and integrated approaches.

Planning processes across spatial scales and integrated approaches have been called for in regional policy, including the FPO. However, as acknowledged in that policy, the emphasis should be on providing a useful tool for countries that have clearly defined the need and a process and ongoing forum for inclusive discussion that may lead to action rather than adding to the burden of unimplemented policy and legislation. The importance of getting the process right and ensuring inclusivity of all interests, including less vocal but crucial stakeholders, such as coastal communities, churches or private sector, is vital but ill-suited to donor-driven projects and time frames.

The FPO and preceding ocean policy (PIROP) recognised the gaps between sectors and the need for processes of integration, and called for a dedicated and independent regional ocean commissioner and small secretariat. Unfortunately, owing to an initial lack of resources, the ocean commissioner is currently a part-time responsibility of the

PIFS Secretary-General. In view of this, there is still a need for the originally envisaged body, ideally serving the interests of only the independent Pacific island countries.

In advocating an integrated approach, the FPO also envisaged PIC rights and responsibilities over the adjacent high seas. This has currently gained further legitimacy in view of the inferior resource management of migratory stocks that global mechanisms exert over migratory species compared to the EEZs. The successful management of tuna by PICs has also shown practical benefits in terms of regulating fishing activities in the high seas, and there is potential to achieve conservation benefits in this notoriously hard-to-manage zone through these mechanisms or similar ones, such as those established for DSM.

Many PICs are too small to realistically separate environmental governance across different ministries and integrated management would afford many efficiencies and improved effectiveness. Moving towards single natural resource management agencies that are independent of day-to-day political oversight should be considered. Similar arguments could be made for the restructuring or integration of some, or parts of, regional agencies.

However, this review suggests that integrated ocean governance in the Pacific islands, if achieved, will resemble a mosaic of interlinked, nested, overlapping and continually negotiated resource management approaches adapted to sectoral and national interests. An overarching formal ocean governance mechanism not only seems very difficult to achieve but might be undesirable if it facilitates opportunities for interference from global powers.

Improving national service delivery and natural resource governance arrangements

Ultimately, the region's successful development and stability will depend on progress at the national level. There is a tendency in regional-level discussions to overlook or downplay the sometimes poor national service delivery, planning and accountability mechanisms.

The more populous PICs have predominantly rural populations and there is a need for more emphasis on increased support and environmental service delivery in rural areas through considerably better financed and supported subnational (provincial or island) governments. Although customary tenure and resource management that addresses key food security and resilience needs should be supported, other aspects of resource management require the more immediate presence of staff and services. Without the establishment of such mechanisms, there is little chance that national, let alone regional, policy will impact communities.

There is scope for the improvement of public participation in policy development and access to information in many PICs. This would improve the quality and relevance of policy and also improve the transparency and accountability of resource management decisions, particularly of high-value inshore resources such as bêche-de-mer, discussions on DSM development and tuna access arrangements.

5.6 Recommendations

5.6.1 Shift the ocean paradigm from 'explore and exploit' to 'sustain and be sustained by'

- Promote a shift in thinking at all levels and across sectors towards first securing a stable natural resource base upon which to build sustainable development. For action by regional agencies, national governments and civil society organisations.
- Prioritise government investment in long-term management of ocean resources. For action by national governments.
- Seek sustainable financing approaches to natural resource management at regional and national levels. For action by regional agencies, national governments and civil society organisations.
- Recognise, support and optimise the use of traditional knowledge and customary rights over coastal areas in resource management. For action by national governments and regional agencies/NGOs.
- Review and align capacity-building institutions and formal/informal curricula to the new paradigm and experiences. For action by academic institutions and training facilities in close co-operation with regional and national resource management institutions and NGOs.

5.6.2 Refining regional approaches to 'communities of interest' and reviewing the role of technical agencies

- Consider new or more flexible existing regional groupings and agencies with the appropriate constituency for the task at hand, aligned more with communities of common interest or stakes, with a primary emphasis on the island nations. For action by regional agencies, national governments and change agents.
- Emphasise improvements or consideration of the processes employed for achieving regional outcomes or groupings. For action by national leaders and governments.
- Review the constituency and rationale for regional technical agencies in light of the expected geopolitically sensitive issues to be managed. Also consider the appropriateness of regional pools of technical services for some of the larger countries. For action by regional agencies, donors and national governments.

5.6.3 Whole-island and whole-ocean approaches

- Move towards establishing a full-time and independent Ocean Commissioner with an appropriate secretariat to fulfil the functions originally contemplated in the region's ocean policy. For action by the regional ocean commission and regional agencies.
- Pursue the ocean-wide and national integrated/cross-sectoral forums and processes and marine spatial planning, where appropriate, to ensure whole-ocean

integrated approaches including for the high seas. For action by the regional ocean commission and CROP agencies.

- Consider restructuring and amalgamating natural resource management agencies at national and even regional levels to ensure integration, especially in small and financially limited small island states. For action by national governments and regional agency analysis.

5.6.4 Improving national service delivery and natural resource governance arrangements

- Emphasise improving national support for resource management at community level through improved service delivery, increased resourcing of subnational government and decentralisation. For action by national governments, regional agencies, NGOs and donors.
- Improve national public participation in natural resources policy development and access to information to ensure transparency and accountability of resource management decisions. For action by national governments.

Notes

1 This chapter benefited from valuable comments from the Pacific Islands Forum Secretariat (Cristelle Pratt, Andie Fong Toy and Ribanataake Awira), University of the South Pacific (Jeremy Hills), Forum Fisheries Agency (Perry Head), Secretariat of the Pacific Community (Lindsay Chapman) and the Commonwealth Secretariat (Jeff Ardron, Rosemarie Cadogan, Hannah Lily and Resina Katafono).

2 American Samoa, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Northern Mariana Islands, Palau, Papua New Guinea, Pitcairn Islands, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna.

3 The Exclusive Economic Zone is a sea zone prescribed by the United Nations Convention on the Law of the Sea (UNCLOS) over which a state has special rights regarding the exploration and use of marine resources, including energy production from water and wind. The EEZ extends 200 nautical miles from a coastal baseline or to a lesser extent in the case of overlapping claims between adjacent states.

4 Data in the region are not always segregated by Commonwealth affiliation so reference is made to PICTs and PICs (nine Commonwealth Pacific small states plus Niue, Cook Islands, Palau, Marshall Islands and Federated States of Micronesia) where relevant.

5 Based on graphics by CartoGIS, College of Asia and the Pacific, Australian National University and calculations by Piers Dunstan/CSIRO. SPREP reports that Oceania has an area of ocean of approximately 62,761,420 km^2 including international waters.

6 This section draws mainly from Gillett 2016 unless otherwise stated.

7 Pacific region refers to PICTs.

8 Countries allow foreign-based fishing fleets to fish in their EEZs for a fee.

9 This section draws mainly on World Bank (2016b) which in turn draws substantially on FFA (2015) and Williams and Terawasi (2015)

10 The WCPO region includes both national waters as well as areas beyond national jurisdiction and extends notionally to the East Asian seaboard but does not include the South China Sea; the southern boundary extends to 60 degrees south and the northern extends to Alaska and the Bering Sea. In the east, the Convention Area adjoins the area of competence of the Inter-American Tropical Tuna Commission (https://www.wcpfc.int/). ISSF 2016

11 International Seafood Sustainability Foundation (ISSF) 2016, management recommendations from Harley *et al.* 2015

12 Maximum sustainable yield or MSY is, theoretically, the largest yield/catch that can be taken from a species' stock over an indefinite period. ISSF 2016 reports catches in 2015 were below an MSY of 1.892 million mt while Harley *et al*. report that in 2014 catches were slightly above an estimated MSY of 1.532 million mt.
13 FADs take advantage of the tendency of some species of fish, such as tuna, to congregate under floating objects. When naturally occurring objects, such as logs, are not sufficient, these FADs can be created artificially. The adoption in the 1990s of FADs by the purse seine fishery was instrumental in creating the world's largest tuna fishery in the Pacific. Although FADs are primarily used for the skipjack fishery, they attract as by-catch the more threatened bigeye tuna and juvenile yellowfin, raising concern over the increasing use of FADS.
14 The World Bank (2016b) estimates the WCPO convention area at 30 million km^2
15 The El Nino-Southern Oscillation (ENSO) is an oscillation between a warm (El Nino) and a cold (La Nina) situation every 2–7 years in the tropical Pacific Ocean, which strongly influences distribution and abundance of tuna in the equatorial waters. Skipjack prefer warmer waters that extend farther to the east, correlated with ENSO events with higher purse seine catches in the central Pacific, e.g. Kiribati's Line Islands. After an El Nino productivity shifts, higher skipjack catch rates may occur in PNG and the Solomon Islands, particularly if a La Nina episode follows an El Nino. Longline catch rates of yellowfin and bigeye seem also to increase in regions of increased sea surface temperatures (Bell *et al*., 2011).
16 This section draws from World Bank 2016a Tourism – Pacific Possible unless otherwise attributed.
17 Hawaii has very recently connected a small OTEC installation (Vyawahare 2015) and a small wave power unit (Bussewitz 2016) to the national electricity grid.
18 This section draws mainly on World Bank 2016c unless otherwise cited.
19 SIDS are a distinct group of developing countries facing specific social, economic and environmental vulnerabilities. They include the PICs as well as other countries from the Caribbean region and Africa, Indian, Mediterranean and South China Sea.
20 A more exhaustive list can be found in Pratt and Govan, 2010
21 See http://www.un.org/Depts/los/convention_agreements/texts/unclos/closindx.htm
22 See https://www.wcpfc.int/
23 The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (in force as from 11 December 2001)
24 ABNJ, commonly called the high seas, are those areas of ocean for which no one nation has sole responsibility for management.
25 www.ffa.int, World Bank 2016b
26 MSG members: Fiji, New Caledonia, PNG, Solomon Islands, Vanuatu
27 http://gsd.spc.int/regionalmaritimeboundaries/project-progress and http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/depositpublicity.htm
28 FSM and Tonga have not deposited information regarding their baselines, but have enacted legislation regarding their territorial sea and EEZ, concluded maritime boundary agreements and made submissions to the CLCS. http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/depositpublicity.htm
29 Artack, E. 2016. SPC's Geoscience Division's Regional Maritime Boundaries Unit updates for the 17th MSWG – Friday 1st July 2016.
30 FSM and Tonga respectively have enacted domestic legislation Public Law 5-112 (FSM) and Act No. 30, Territorial Sea and EEZ Act, amended by Act No. 19 of 1989 (Tonga).
31 Cook Islands, Fiji, FSM, Kiribati, Palau, PNG, Solomon Is., Tokelau, Tonga, Tuvalu and Wallis and Futuna. http://www.un.org/Depts/los/clcs_new/commission_submissions.htm
32 Address by James Movick, Director General, Forum Fisheries Agency, 2016 New Zealand Washington Pacific Day Event. Washington, DC.
33 PNA press release. Majuro, Marshall Islands 25 November 2016. http://www.pnatuna.com/node/376
34 Address by James Movick, Director General, Forum Fisheries Agency, 2016 New Zealand Washington Pacific Day Event. Washington, DC.
35 Gillett 2014

36 For example, the Fisheries Partnership Agreement between the EU and Kiribati over the period 16.9.2012 – 15.9.2015 undermined the Vessel Day Scheme (VDS) and arguably produced a more favourable agreement for the EU. https://ec.europa.eu/fisheries/cfp/international/agreements/kiribati_en

37 The most recent outcome of negotiations seems to have made progress for the Pacific in terms of subjecting the US fleet to national laws of their EEZs and the terms of the VDS without exemptions but at a fixed price over 4 years without obligation on the US (PNA 2016b).

38 After many years of attempting to apply a quota-based system in which fishers are licensed to extract a predetermined amount of fish, the PNA countries have found that a system based on monitoring and restricting the effort in terms of time fishing in the zone or vessel day scheme is far more practical to administer and benefits the PICs more. http://www.pnatuna.com/node/373

39 Report of the Fisheries Task Force 29 June 2016, PIFS, Suva Fiji

40 http://www.conservation.org/NewsRoom/pressreleases/Pages/Kiribati-Takes-Unprecedented-Action-to-Protect-Remaining-Tuna-Stocks.aspx

41 Leenhardt *et al.*, 2013; Giron, 2016; ISSF, 2012. LSMPA declarations in the PICS did not result in reduced national tuna catch allocations in 2015 (Aqorau pers. comm.)

42 Address by James Movick, Director General, Forum Fisheries Agency, 2016 New Zealand Washington Pacific Day Event. Washington, DC.

43 FFA 2015b Regional Roadmap for Sustainable Fisheries, James Movick op. cite

44 Ballast water is water carried in ships' ballast tanks to improve stability, balance and trim. It is taken up or discharged when cargo is unloaded or loaded, or when a ship needs extra stability in foul weather. Plants and animals may be picked up in ballast water and discharged elsewhere. www.epa.vic.gov.au/your-environment/water/ballast-water

45 Canvassed positions and concerns from regional organisations in Govan 2014b

46 Newell *et al*. 2016, Wan *et al*. 2016, http://www.hellenicshippingnews.com/shipping-emissions-pacific-countries-lead-brave-stand-in-imo-meeting/

47 SPC 2016b

48 NIWA (draft). Assessment of the potential impacts of deep seabed mining on Pacific Island fisheries. Secretariat for the Pacific Community (SPC)

49 Aqorau, 2015, Leenhardt *et al.*, 2013 and Giron, 2016 note that negotiating access to tuna resources provides major nations with a strategic presence and influence in the region and encouraging countries to set aside large areas or resources also serves as a geopolitical counterbalance.

50 For example, World Conservation Congress Motion 53 of 2016. Charles *et al*., 2016.

51 For example, FLMMA, 2015

52 See Figure 2.2.

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Appendix 5.1 The Roles of Regional Organisations in Ocean Governance

The Council of Regional Organisations in the Pacific brings together the major regional intergovernmental organisations. Those primarily relevant to ocean affairs are listed in Table A5.1, along with their relevant function and membership. Table A5.2 lists other relevant intergovernmental regional organisations and Table A5.3 some of the most regionally active NGOs.

Table A5.1 CROP Agencies involved in Ocean Affairs

Name	Function and Membership
Pacific Island Forum Secretariat	This is the premier political grouping in the Pacific. Its mission is to ensure the effective implementation of the Pacific Islands Leaders' decisions for the benefit of the people in the Pacific. PIFS assists with international negotiations, trade negotiations (which may include fisheries or marine aspects), and acts as co-ordinator and facilitator for the technical advice provided by other CROP agencies. PIFS provides oversight and reports to leaders on the fisheries related leaders' decisions under the Framework for Pacific Regionalism. PIFS currently hosts the independent Pacific Ocean Commissioner and Alliance. *Members: PICs, Australia and New Zealand. Also Associate members, Special observers and Dialogue partners. Observer status at the UN.*
Forum Fisheries Agency	FFA helps countries sustainably manage fishery resources that fall within their EEZs. FFA is an advisory body providing expertise, technical assistance and other support to its members who make sovereign decisions about their tuna resources and participate in regional decision making on tuna management through agencies such as the Western and Central Pacific Fisheries Commission (WCPFC). *Members: PICs, Tokelau, Australia and New Zealand.*
Secretariat of the Pacific Community	SPC provides technical and policy advice and assistance to its members. Among other technical divisions, SPC has a Geoscience Division for Maritime Boundaries and Non-living Resources; Division of Fisheries, Aquaculture and Marine Ecosystems (FAME) offshore fisheries program for tuna fisheries science, FAME coastal fisheries program for coastal fisheries science, management and aquaculture; Statistics for Development Division for statistics, and working on the SDG indicators, and a Climate Change Programme. *Members: PICs, Australia, France, New Zealand, United States of America, American Samoa, French Polynesia, Guam, New Caledonia, Pitcairn Islands, Northern Mariana Islands, Tokelau, Wallis and Futuna*

(*continued*)

Table A5.1 CROP Agencies involved in Ocean Affairs (*Continued*)

Name	Function and Membership
Secretariat of the Pacific Regional Environment Program	SPREP provides assistance to its members to promote co-operation and to provide assistance to protect and improve the environment and support sustainable development. SPREP maintains important programs in relation to EIAs, MGRs, pollution and migratory species. *Members: PICs, Australia, France, New Zealand, United Kingdom, United States of America, American Samoa, French Polynesia, Guam, New Caledonia, Northern Mariana Islands, Tokelau, Wallis and Futuna*
University of the South Pacific	USP provides undergraduate and postgraduate educational services to the peoples of the Pacific region. USP has a Marine Studies Program, Pacific Centre for Environment & Sustainable Development and an Institute of Marine Resources, as well as expertise relevant to Oceans in other departments such as Geography, Governance and Applied Science. *Members: PICs except FSM, Palau and PNG*
South Pacific Tourism Organisation	SPTO facilitates the sustainable development of the tourism sector in the South Pacific; to strengthen capacity within the region; and to sustainably plan, market and manage the development of the tourism sector. *Members: PICs, American Samoa, Cook Islands, French Polynesia, New Caledonia, Timor Leste, and the People's Republic of China, as well as 200 private sector members.*

Source: Govan 2014b

CROP agencies co-ordinate activities under Working Groups, of most relevance to the Ocean is the Marine Sector Working Group (MSWG) and the Sustainable Development Working Group (SDWG):

- The MSWG is chaired by FFA and SPC on a rotational basis and includes representatives of the 5 regional CROP agencies that have a mandate in fisheries or marine related activities and a growing list of international organisations, NGO and donor observers.
- The SDWG is co-chaired by PIFS and SPREP to (i) support Pacific island countries and territories through provision of effective and well-co-ordinated advice on issues that relate to sustainable development, and (ii) facilitate an integrated and programmatic approach to sustainable development including matters relating to the SDGs.

NGOs are very active and large international, particularly US-based, philanthropic NGOs have considerable lobbying power and influence. Pacific civil society have far less influence or access to resources with a few exceptions (e.g. Pacific Network on Globalisation and Local Managed Marine Area Network). The churches are widely recognised as influential civil society links to communities and some of the umbrella organisations have been active in matters of climate change.

Table A5.2 Other relevant intergovernmental regional organisations

Name	Function and Membership
Office of the Pacific Ocean Commissioner and Pacific Ocean Alliance	Formed under the Framework for a Pacific Oceanscape, the role of the Pacific Ocean Commissioner is to provide the necessary high-level representation and commitment to ensure dedicated advocacy and attention to ocean priorities, decisions and processes. Currently the Secretary-General of PIFS fulfils the role of Pacific Ocean Commissioner in a part-time capacity and the PIFS provides support functions. The Pacific Ocean Commissioner facilitates a Pacific Ocean Alliance, launched in 2014, intended to provide effective, integrated ocean policy co-ordination and implementation, facilitate regional co-operation and collaboration, including for the high seas, as well as support for national ocean governance and policy processes when required.
Pacific Islands Development Forum (PIDF)	PIDF was inaugurated in 2013 and aims to be a representative and participatory platform promoting 'green economy'. The 4th PIDF Leaders' Summit in 2016 included commitments to improving ocean governance and the ocean-related economy and plays an advocacy role in ocean and climate related policy at international and regional levels.
Parties to the Nauru Agreement Office	PNA maintains a small secretariat and office, which has been active in regional ocean governance issues, including the submission of proposals for consideration under the Framework for Pacific Regionalism relating to DSM and regional management of tuna other than skipjack.
The Western and Central Pacific Fisheries Commission	Established by the WCPF Convention to implement the Provisions of the UN Straddling Fish Stocks Agreement.
Te Vaka Moana (TVM)	Under TVM, fisheries administrations of the Cook Islands, New Zealand, Niue, Samoa, Tokelau and Tonga work together to increase economic benefits and food security. TVM develops and implements robust fisheries governance frameworks, systems and processes, over high seas and in-zone fisheries, works to reduce IUU fishing, and ensures co-operation at a subregional (Polynesia) level.
South Pacific Regional Fisheries Management Organisation (SPRFMO)	SPRFMO is an intergovernmental organisation that is committed to the long-term conservation and sustainable use of the fishery resources of the South Pacific Ocean. The SPRFMO Convention applies to the high seas of the South Pacific, the main commercial resources managed are jack mackerel and jumbo flying squid in the Southwest Pacific and, to a lesser degree, deep-sea species associated with seamounts in the Southeast Pacific. The Organisation consists of a Commission and a number of subsidiary bodies. New Zealand hosts the SPRFMO Secretariat.

(*continued*)

Table A5.2 Other relevant intergovernmental regional organisations (*Continued*)

Name	Function and Membership
United Nations Food and Agriculture Organization	The FAO operates a Subregional Office for the Pacific Islands as a technical hub, which supports 14 countries in the Pacific. It is responsible for developing, overseeing and implementing programmes and projects to address food security, nutrition, agriculture and rural development priorities including a coastal fisheries component.
Melanesian Spearhead Group Secretariat	The MSG was established in 1986 and the Secretariat was inaugurated in 2008 adding capacity to further implement MSG decisions. Relevant decisions include the development of a Roadmap for Inshore Fisheries Management in 2012, Memorandum of Understanding on Coastal Fisheries and Aquaculture Development and a Declaration on Environment & Climate Change 2012.

Table A5.3 Regional NGOs operating in at least several PICs on ocean-related topics

Conservation NGOs	Community Development and Fisheries Management NGOs	Other NGOs
Birdlife International	Foundation of the Peoples of the South Pacific International	Oxfam
Conservation International	Live and learn	Pacific Conference of Churches
Greenpeace	Locally Managed Marine Area Network	Pacific Islands Association of Non-Governmental Organisations
The Nature Conservancy	Worldfish Centre	Pacific Islands News Association
Wildlife Conservation Society		Pacific Network on Globalisation
World Conservation Union		World Vision
World Wide Fund		
Pew Charitable Trusts		

Appendix 5.2 Excerpt from the 2030 Agenda for Sustainable Development

Sustainable Development Goal 14: Conserve and Sustainably Use the Oceans, Seas and Marine Resources for Sustainable Development

14.1 by 2025, prevent and significantly reduce marine pollution of all kinds, particularly from land-based activities, including marine debris and nutrient pollution

14.2 by 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration, to achieve healthy and productive oceans

14.3 minimize and address the impacts of ocean acidification, including through enhanced scientific co-operation at all levels

14.4 by 2020, effectively regulate harvesting, and end overfishing, illegal, unreported and unregulated (IUU) fishing and destructive fishing practices and implement science-based management plans, to restore fish stocks in the shortest time feasible at least to levels that can produce maximum sustainable yield as determined by their biological characteristics

14.5 by 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on best available scientific information

14.6 by 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, and eliminate subsidies that contribute to IUU fishing, and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the WTO fisheries subsidies negotiation

14.7 by 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism

14.a increase scientific knowledge, develop research capacities and transfer marine technology taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular SIDS and LDCs

14.b provide access of small-scale artisanal fishers to marine resources and markets

14.c ensure the full implementation of international law, as reflected in UNCLOS for states parties to it, including, where applicable, existing regional and international regimes for the conservation and sustainable use of oceans and their resources by their parties

Chapter 6

Non-communicable Diseases: Unlocking the Constraints to Effective Implementation of Policy Interventions

Jimmie Rodgers

6.1 Introduction[1]

The nine Commonwealth Pacific small states (Fiji, Kiribati, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu) face a double disease burden. All have continuing prevalence of communicable diseases with ongoing high levels of susceptibility to potential epidemic diseases outbreaks. In addition, they all face the rapidly increasing health and socio-economic challenges posed by non-communicable diseases (NCDs), mainly cardiovascular diseases including stroke, diabetes, cancer and chronic respiratory diseases (GBD 2013). NCDs have reached a tipping point that is seriously eroding the capacity of all the countries to achieve long-term sustainable development and will likely undermine the ability of the countries to achieve the 2030 Sustainable Development Goals (SDGs) (UN 2015) and the Pacific Islands Forum[2] Leaders' Vision[3] for the region (PIFS 2014a).

Except for Papua New Guinea (PNG), NCDs are now the leading cause of death in eight of the Commonwealth Pacific small states (WHO 2011a). NCD-related disabilities are also increasing, resulting in rapidly rising health sector expenditures in most of the countries at a level that is clearly unsustainable in the long term (World Bank, 2014). NCDs not only rob the countries of their intellectual capacity (through losses to the labour force due to NCD mortality), they also undermine the quality of performance of each country's economic engine through declining labour force performance resulting from NCD-related disabilities (World Bank 2014).

Pacific Health Ministers and Pacific Islands Forum Leaders recognised the huge human, social and economic impact of NCDs on Pacific countries and territories and declared in 2011 that the Pacific was facing an NCDs crisis (WHO & SPC 2011; PIFS 2011). Forum Leaders emphasised the importance of acting quickly and decisively through a comprehensive response and called on governments, the private sector, civil society, regional and international organisations and development partners to work together to address the rapidly unfolding NCDs crisis (PIFS 2011).

Five years on from the time the initial political declarations were made, it is important to take stock of the level of progress achieved in the Commonwealth Pacific small states, as a subset of the broader Pacific islands region, in their fight against the scourge of NCDs.

This chapter provides a situational analysis of NCDs in the nine Commonwealth Pacific small states, reviews the current key responses, discusses some key challenges facing the countries and considers possible trajectories to 2050, before closing with some recommendations.

The key tenet underpinning the analysis and recommendations of this chapter is to provide the leaders and decision-makers of the nine Commonwealth Pacific small states with additional evidence which could help them in unlocking the constraints to effective implementation of priority NCDs interventions in the countries.

This chapter was based on a desk review of existing and accessible published literature on non-communicable diseases from the nine Commonwealth Pacific small states at the time of writing, supplemented by internationally available literature on NCDs from the Pacific region and globally. All the statistics used in this chapter are derived from the reviewed literature.

6.2 Context

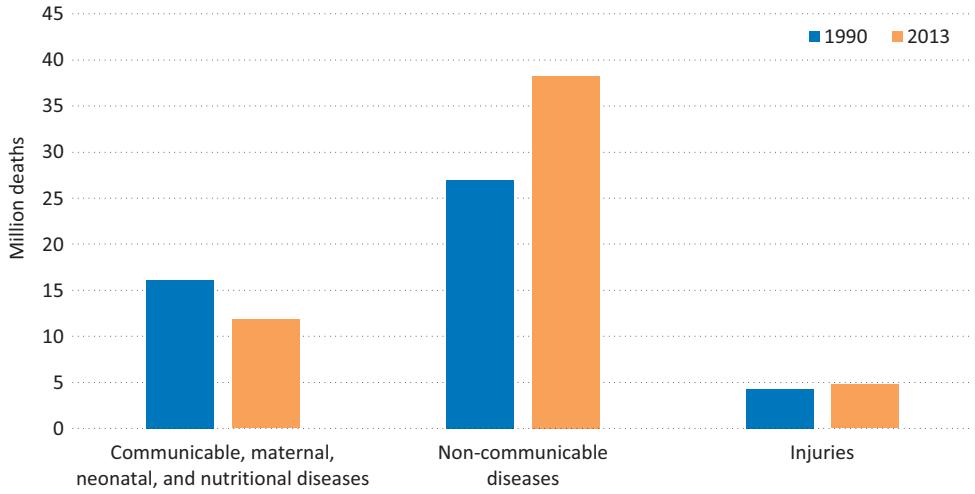
6.2.1 Global

NCDs are a significant health and development challenge globally. NCDs, mainly cardiovascular diseases (CVDs), including stroke and ischaemic heart diseases,[4] diabetes, cancer and chronic respiratory disease, constitute the single greatest cause of preventable illness, disability and mortality globally (WHO 2010). The social and economic impacts of NCDs are significant. They reduce global and national economic output, strain national governments and health systems, burden vulnerable households, put human rights at risk and seriously undermine development progress (UNDP 2013b; World Bank 2014). NCDs also impose several interrelated social and economic costs (World Bank 2014). Lost productivity due to illness, disability or death from NCDs can impede macroeconomic growth and shift public budgets from other important health and development objectives (WHO 2010; Bloom et al. 2011; UNDP 2013b; World Bank 2014).

NCDs are the leading cause of death globally, responsible for more deaths than all other causes combined (Figure 6.1) (WHO 2010). In 2013, 70 per cent of all deaths: 38.3 million of 54.9 million global deaths, were due to NCDs, representing an increase of around 42 per cent from 27 million in 1990 (GBD 2013). In contrast, deaths from communicable diseases during the same period fell by 27 per cent from around 16.1 million people in 1990 to 11.8 million in 2013, while deaths from various forms of injuries rose by 10 per cent from around 4.3 million people in 1990 to 4.8 million in 2013 (GBD 2013). The most common causes of NCD deaths globally in 2013 were: cardiovascular diseases (45%), cancers (22%), chronic respiratory diseases (11%) and diabetes, urogenital, blood and endocrine diseases (8%) (GBD 2013).

The rapidly growing burden of NCDs in low- and middle-income countries is enhanced by the negative effects of globalisation, rapid unplanned urbanisation, increasingly sedentary lives and rapidly increasing consumption of foods with higher levels of total energy, as well as increasing consumption of alcohol and tobacco

Figure 6.1 Global deaths by cause



Source: Global Burden of Disease (GBD) 2013 Mortality and Causes of Death Collaborators, 2013

products (WHO 2010; WHO 2002b). The speed of growth of these challenges outpace the ability of many governments in lower-income countries to respond effectively to an ever-expanding need for policies, legislation, services and infrastructure that could help protect their citizens from NCDs (WHO 2010).

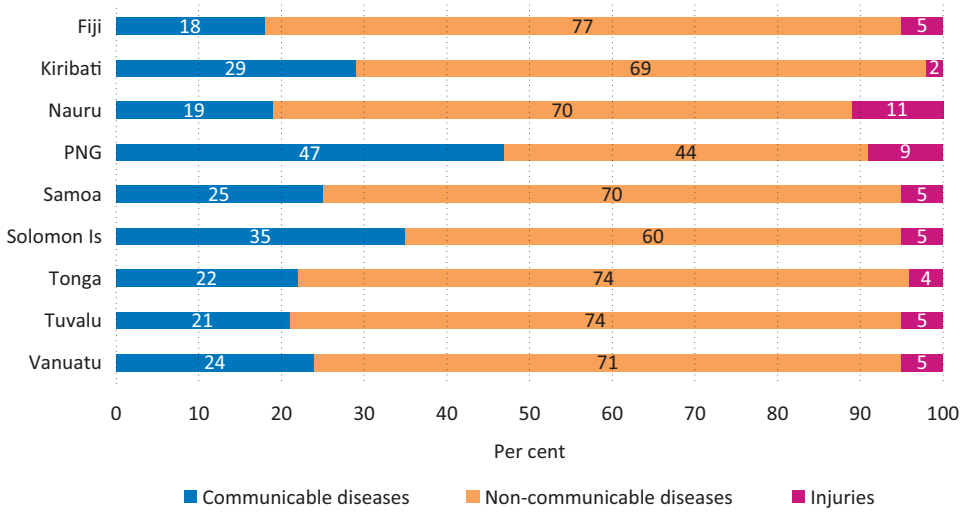
NCDs impose substantial macroeconomic and health systems costs globally. The four main NCDs and mental health are projected to cause a huge loss of global economic output, around US$47 trillion in a 20-year period (2010–2030), equivalent to what would be needed to eradicate poverty in 2.5 billion people for the next 50 years (Bloom *et al.* 2011). In addition, the cost of healthcare for NCDs creates significant strain on household budgets, particularly for lower-income families in poorer countries where most healthcare costs are met by patients out-of-pocket (WHO 2010). Treatment for diabetes, cancer, cardiovascular diseases and chronic respiratory diseases can be extremely expensive over time and such costs can force families into catastrophic spending and impoverishment (WHO 2010). More broadly, the costs to healthcare systems from NCDs are high and projected to increase substantially (WHO 2010; World Bank 2014).

6.2.2 Regional

NCDs prevalence and risk factors

The Pacific is often referred to as 'the NCDs capital of the world'.[5] NCDs are the leading cause of death in all Commonwealth Pacific small states except Papua New Guinea, ranging from around 60 per cent of all deaths in Solomon Islands to 77 per cent of all deaths in Fiji in 2008, with only PNG having a lower burden of 44 per cent of deaths that year (Figure 6.2) (WHO 2011a). The rate of NCDs in PNG is lower due to the relatively muted impact of globalisation and urbanisation (key determinants

Figure 6.2 Proportional mortality by cause, 2008



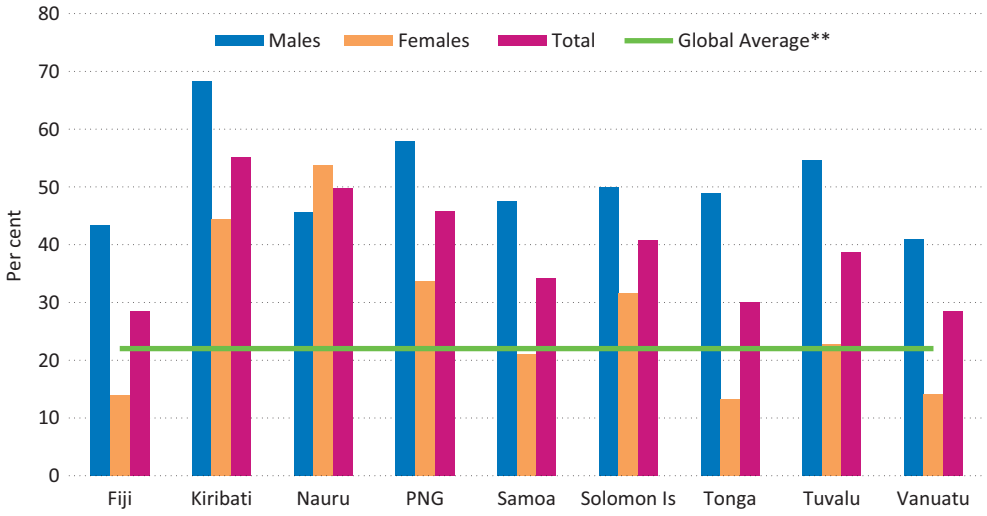
Source: WHO 2011a

of NCDs) on PNG's largely rural population; PNG also has lower than average life expectancy (longer lives is another key determinant of NCDs) (Luker 2013). In 2012, the trend increased for Fiji with 80 per cent of all deaths due to NCDs; the trend for Solomon Islands remained unchanged at 60 per cent, while there was a decline for PNG at 42 per cent (WHO 2014a). No data were available or reported for the other countries.

The Commonwealth Pacific small states also exhibit alarming trends on the risk behaviours for NCDs, such as tobacco use, harmful use of alcohol, obesity, diabetes, physical inactivity and unhealthy diet. Importantly, the trend in these modifiable risk behaviours suggests that NCDs will be an even greater health and socio-economic challenge in the coming decades (World Bank 2014). Globally, the rise in risk behaviours is linked to the impact of advertising by industries, such as the targeting of youths on tobacco and alcohol use (APHA 1992). Food advertising is linked to childhood obesity and obesity can impact children's behavioural and mental health (APA [n.d]).

Commonwealth Pacific small states have a high prevalence of tobacco use. In 2010, the prevalence of tobacco consumption in all the countries was higher than the global average (Figure 6.3) (WHO 2014b; WHO 2015a). Men have a higher prevalence in smoking in all countries except Nauru where women have a higher prevalence in smoking (54%) than men (46%) (WHO 2015a; Kessaram *et al.* 2015a). Adult males in Kiribati and PNG were ranked third and fifth highest in the world, respectively, on smoking prevalence (Ng et al. 2014). Women in Kiribati, PNG, Tonga, Samoa and Solomon Islands also have a higher prevalence of tobacco use than the regional average of 16 per cent (Ng *et al.* 2014; WHO 2015a). Despite PNG's high tobacco use, NCDs prevalence, particularly for chronic respiratory disease, heart disease and cancer, is relatively low. The character of NCDs in PNG is indeed different to

Figure 6.3 Prevalence rates for tobacco use, 2010*



Note: *For Tuvalu, 2000 data used as no latest data. **Average for 2012.
Source: WHO 2014b, 2015a

other countries (Luker 2013). Studies have found no relationship between tobacco smoking and chronic obstructive pulmonary disease, although betelnut-chewing is recognised as a major factor behind cancer of the oral cavity and could be a risk factor for diabetes and other NCDs, highlighting that internationally significant risk factors may be locally less important in PNG (Luker 2013).

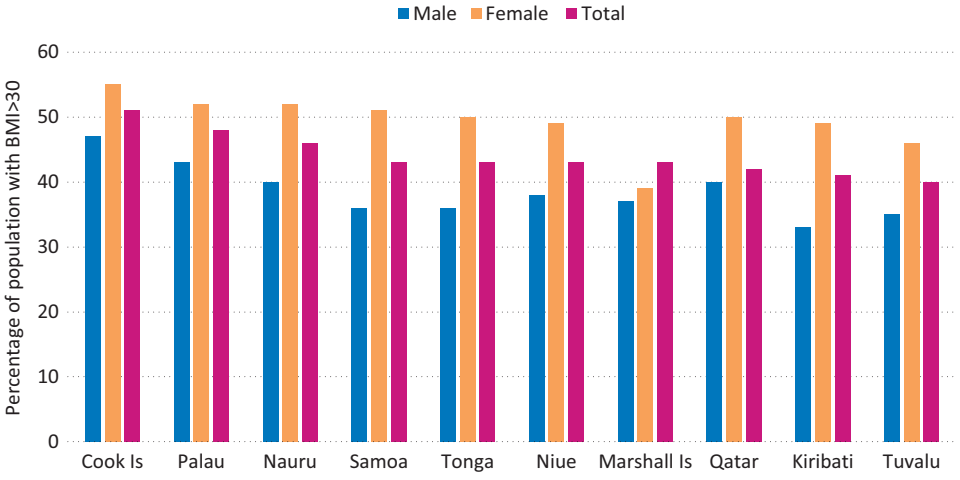
Pacific countries have very high prevalence of overweight people,[6] obesity[7] and physical inactivity.[8] Being overweight and obesity are major risk factors for NCDs, particularly for diabetes and CVDs, including stroke.

Nine of the ten most obese countries in the world are from the Pacific, of which five are Commonwealth Pacific small states – Nauru, Samoa, Tonga, Kiribati and Tuvalu (Figure 6.4). Qatar is the only non-Pacific country in the top ten. Between 40 and 51 per cent of the adult population in these countries have a body mass index (BMI) greater than 30. Women have a much higher prevalence of being overweight and obesity than men in all the countries, a risk factor that increases their susceptibility to diabetes and CVDs (WHO 2014b; WHO 2002a).

There are also particularly high levels of physical inactivity among adolescents in the Pacific, ranging from 84 per cent in Tonga to 91 per cent in Nauru for girls; and from 78 per cent in Kiribati to 88 per cent in Tonga for boys (WHO 2014b). Physical inactivity for adult women ranged between 9 per cent in Vanuatu (likely low due to relatively rural population engaging in subsistence activity) to 53 per cent in Tonga and between 7 per cent in Vanuatu and 36 per cent in Nauru for men (WHO 2014b).

The Pacific was recently described as the 'epicentre of the global diabetes epidemic',[9] given the high prevalence of diabetes, including for Commonwealth Pacific small states.

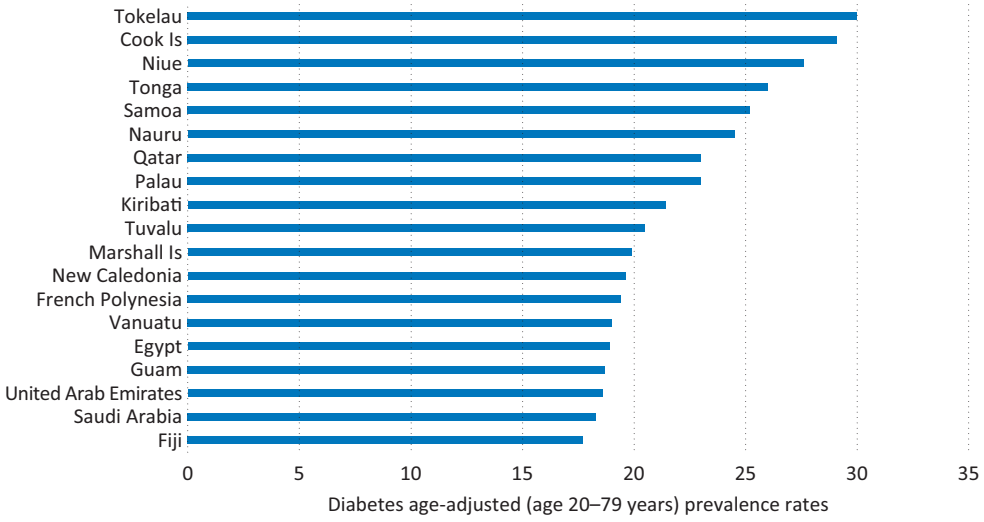
Figure 6.4 The ten most obese countries in the world



Source: WHO 2014b

Fifteen of the top 20 countries with the highest prevalence of diabetes in the world, including seven of the Commonwealth Pacific small states (except PNG and Solomon Islands), are in the Pacific (WHO 2014b; International Diabetes Federation 2015) (Figure 6.5). It should be noted though that a recent report (Taylor *et al.* 2016), highlighted that deficiencies in the WHO methods used to test for the disease erroneously inflated diabetes rates for the Pacific, and called for a recalculation of results.

Figure 6.5 Top 20 countries with the highest prevalence of diabetes in the world



Source: WHO 2014b; International Diabetes Federation 2015

Globally, adults with diabetes are two to four times more likely to have heart disease or a stroke than adults without diabetes (American Heart Association 2015) and at least 68 per cent of people aged 65 years or older with diabetes die from some form of heart disease, while 16 per cent die of stroke (American Heart Association 2015). In Fiji, Kiribati, Samoa, Solomon Islands, Tonga and Vanuatu, diabetes is one of the top three causes of premature death and mortality (GBD 2013).

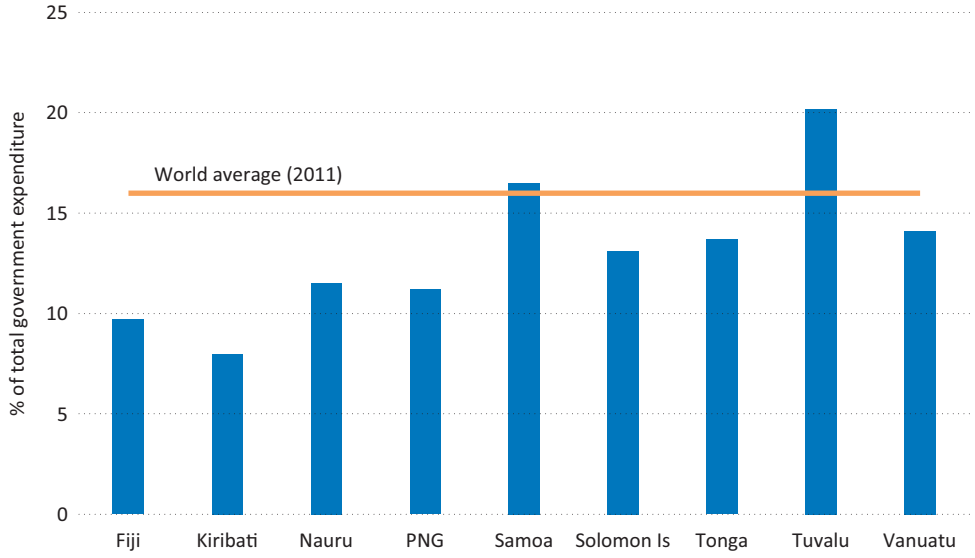
Economic impact of NCDs

Although there is a paucity of hard quantitative and qualitative data on the actual economic impact of NCDs in the nine Commonwealth Pacific small states, a few studies have been carried out that point to the high economic cost of NCDs. In a recent report, the World Bank (2012) found that the treatment of diabetes in Vanuatu was costing a minimum of US$347 per patient per year (which is equivalent to US$362 in 2015[10]). The same report cited an earlier study (Doran, cited in World Bank 2012) that showed patients admitted with NCDs in Tonga and Vanuatu incurred disproportionately larger shares of all treatment expenditure given the higher cost of NCDs treatment compared to treatment for communicable diseases. Similarly, another study (Win Tin *et al*. 2015) found that the cost of treating diabetes in 2011 in Solomon Islands and Nauru were US$198 and US$525 per person per year, respectively. The same study estimated that the total annual cost for treating diabetes to the governments of Solomon Islands and Nauru were US$9 million and US$884,000, respectively, amounting to around 20 per cent of governments' total annual healthcare expenditure in both countries. These levels are comparable to some industrialised countries, such as Canada, Australia, the USA, Germany and others, where over one-third of total expenditures are spent on NCDs (Garg and Evans 2011).

Health expenditure accounts for more than 10 per cent of total government expenditure in seven of the nine Commonwealth Pacific small states, compared to the world average of 16 per cent (Figure 6.6). As a percentage of GDP, health spending has increased in all Commonwealth Pacific small states for which data are available (Figure 6.7). Much of the increase in health expenditures is driven by NCDs, with expenditure on NCDs reaching well over 50 per cent of the total health budgets in many Pacific countries (PIFS 2011). With the growing burden of NCDs, there is an argument for increasing the level of expenditure on health. However, most Commonwealth Pacific small states face limited scope for sustained economic growth to support continually increasing health costs in a sustainable way (World Bank 2014).

Health funding from development partners had not matched the magnitude of the NCDs burden in the Pacific islands. Development partners have been relatively slow to align their support to the disease profile and epidemiological burden faced by the Pacific (Negin and Robinson 2010; Byfield and Moodie 2013). Traditionally, the bulk of development assistance allocated to health priorities favoured communicable diseases, such as HIV/AIDS, tuberculosis and malaria, despite the burden of NCDs superseding the combined burden of these three diseases in majority of the countries, except PNG.

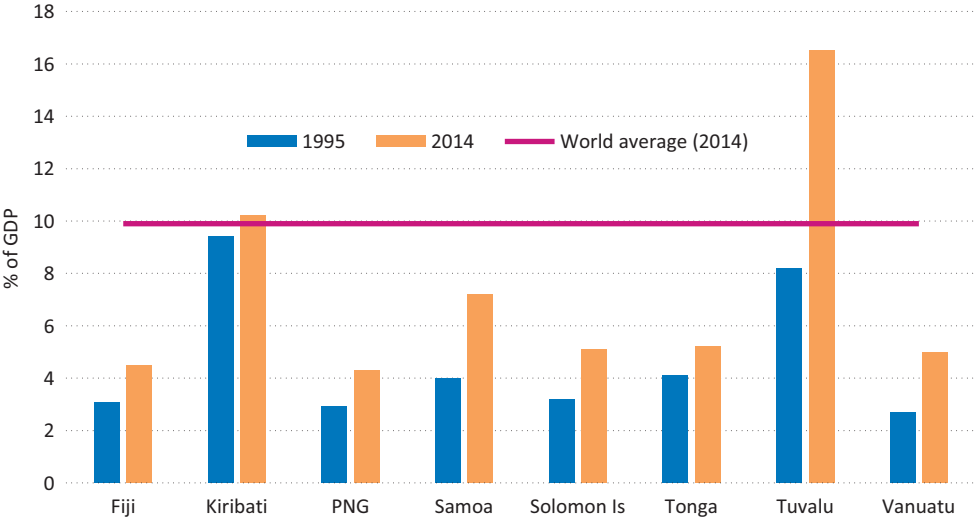
Figure 6.6 Health expenditure as a percentage of total government expenditure in 2014



Source: World Development Indicators 2016b

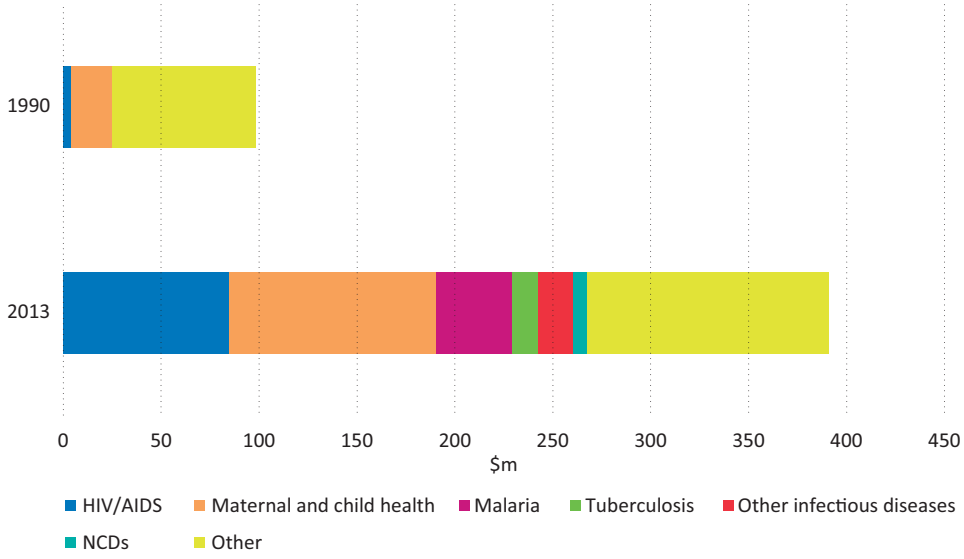
Development assistance for health to the Commonwealth Pacific small states increased significantly between 1990 and 2013. However, in 2013 the majority of the assistance was dedicated to HIV/AIDS, tuberculosis and malaria (35%), maternal and child health (27%), other infectious diseases (5%) and other health-related interventions

Figure 6.7 Health expenditure as a percentage of GDP



Source: World Development Indicators 2016

Figure 6.8 Development assistance for health by focus area to Commonwealth Pacific small states



Source: Institute for Health Metrics and Evaluation 2016

(32%), while NCDs attracted only 2% of the total development assistance for health (Institute for Health Metrics and Evaluation 2016) (Figure 6.8).

It is clear that donor funding decisions have not been driven by the burden of disease profiles of the countries, but by other factors including a strong global HIV community, the commitment to the Millennium Development Goals (MDGs), in which NCDs were not included, and the lack of coherence in responding to the NCDs (Negin and Robinson 2010).

6.3 Major responses

6.3.1 International

The Moscow Declaration on NCDs endorsed by ministers of health in April 2011 (WHO 2011c) and the 2011 United Nations General Assembly Political Declaration (United Nations 2012) provided the global platforms that engineered the joint global commitment to tackle NCDs. The 2011 Political Declaration recognised (i) the threat NCDs posed to the economies of all countries, (ii) the primary role and responsibilities of governments to respond to the challenges of NCDs, and (iii) the important role of the international community and international co-operation in assisting developing countries, and complementing national efforts to combat NCDs (United Nations 2012).

In May 2013, the World Health Assembly endorsed the WHO Global Action Plan for the Prevention and Control of NCDs 2013–2020 (WHO 2013b) to expedite implementation of the 2011 Political Declaration. The Global Action Plan provided nine overarching principles that countries could consider when developing their

respective NCDs action plans: a human rights, equity-based, multisectoral and life-course approach, recognise the central role of government, empower people and communities, focus on evidence-based strategies, aim for universal health coverage and strengthen partnerships, while managing any conflict of interest. The Global Action Plan had an overarching target to reduce premature mortality from NCDs by 25 per cent by 2025 (WHO 2011b; WHO 2013b; WHO 2013c).

At the 2014 UN General Assembly High-level Meeting on the Prevention and Control of Non-communicable Diseases, governments committed to: (i) setting national NCD targets for 2025, (ii) developing national multisectoral policies and plans to achieve the national targets by 2025, (iii) reducing risk factors for NCDs, building on guidelines set out in the WHO Global NCDs Action Plan, and (iv) strengthening health systems to address NCDs through people-centred primary healthcare and universal coverage, building on guidance set out in the WHO Global NCDs Action Plan (United Nations 2014; WHO 2015b).

The importance of tackling NCDs was also recognised in the outcome document of the Third International Conference on Small Island Developing States.[11] The SAMOA Pathway called for comprehensive, whole-of-government multisectoral policies and strategies for the prevention and management of diseases, universal health coverage, targets and strategies to reverse the spread and severity of NCDs, implementation of well-planned and value-added interventions and accountability mechanisms for NCDs monitoring.

More recently, in September 2015, the UN General Assembly adopted the 2030 Development Agenda for Sustainable Development, which provided an overarching target 'to reduce by one-third, premature mortality from NCDs by 2030' (United Nations 2015). Unlike the MDGs, which did not have a specific goal or target on NCDs, Goal 3 of the SDGs ('Ensure healthy lives and promote well-being for all at all ages') now has specific targets supported by a range of global and national monitoring indicators to measure progress against the SDGs' overarching goal on NCDs by 2030 (WHO 2013b; WHO 2013c).

6.3.2 Regional

The Pacific islands region has been at the forefront of the fight against NCDs. In 1995, Pacific health ministers adopted the visionary concept of 'healthy islands as the unifying theme for health promotion and health protection in Pacific island nations. The resulting 'Yanuca Island Declaration on Health in the Pacific in the 21st Century' defined healthy islands as places where (i) children are nurtured in body and mind, (ii) environments invite learning and leisure, (iii) people work and age with dignity, and (iv) ecological balance is a source of pride (WHO 1995). This joint vision by Pacific health ministers has provided the foundation for the region's collaborative work in the health sector over the past two decades and continues to provide the platform for collective regional action that supplement national efforts to combat NCDs.

In 2011, the Pacific ministers of health (WHO & SPC 2011) and the Pacific Islands Forum Leaders (PIFS 2011) declared that the Pacific was facing an NCDs crisis, calling

it a human, social and economic crisis. Two years later, in 2013, Pacific ministers of health agreed to work towards a Tobacco Free Pacific by 2025 (to achieve 5 per cent or less adult prevalence of tobacco use in each country by 2025) (WHO & SPC 2013). Furthermore, in their historic inaugural meeting in 2014, Pacific economic and health ministers adopted the Pacific NCDs Roadmap (PIFS 2014b; World Bank 2014), agreeing to:

- strengthen tobacco control by an incremental increase in excise duties to 70 per cent of the retail price of cigarettes over the medium term;
- consider an increase in taxation of alcohol products as a way of reducing harmful alcohol consumption;
- consider policies that reduce consumption of local and imported food and drink products that are high in sugar, salt and fat content and directly linked to obesity, diabetes, heart disease and other NCDs in the Pacific through targeted preventative measures, taxes and better regulation;
- improve the efficiency and impact of the existing health budget by reallocating scarce health resources to targeted primary and secondary prevention of cardiovascular disease and diabetes, including through the Package of Essential Non-communicable Disease Interventions of 'best buys'; and
- strengthen the evidence base for better investment planning and programme effectiveness to ensure interventions work as intended and provide value for money.

The Pacific NCDs Roadmap also identified more than 30 other priority interventions that can be implemented by other government sectors, the private sector, civil society, churches and other sectors outside of government that countries can consider when developing their respective national NCDs strategies (PIFS 2014b; World Bank 2014).

In the same year, during the Third International Conference on Small Island Developing States, two regional NCDs partnerships were established, aimed at providing co-ordinated, effective and efficient regional support to Pacific island countries to combat NCDs more effectively at the national level:

- **United Nations Pacific Interagency Taskforce on Non-communicable Disease Prevention and Control.**[12] The Taskforce co-ordinates the activities of the relevant United Nations' funds, programmes and specialised agencies in the Pacific to improve collaboration, co-ordination, communication and exchange of information between UN agencies, as they work collectively toward supporting Pacific island countries to combat NCDs. The taskforce, now called the 'UN Theme Group on NCDs', has expanded its membership beyond the UN to include the World Bank and the Secretariat of the Pacific Community (SPC).
- **Pacific NCDs Partnership – a multisector partnership and approach to prevent and control NCDs in the Pacific.**[13] The primary objective of the Pacific NCDs partnership[14] is to strengthen and co-ordinate the necessary capacity and expertise to support Pacific SIDS to significantly progress the prevention

and control of NCDs in order to meet the globally agreed NCDs targets. It is now operating as the Pacific NCDs Network.[15] The Pacific NCDs Network is supported through the work of the Pacific Monitoring Alliance for Non-communicable Disease Action (MANA)[16] – a collaborative alliance inclusive of all Pacific island countries and territories (PICTs), networks, agencies, organisations and institutions working to improve the monitoring and surveillance of non-communicable disease across the Pacific region. While still in their infancy, the Pacific NCDs Network and the MANA hold tremendous potential if well supported to improve the monitoring of NCDs interventions in the region. This would facilitate more effective decision-making at country level on policy interventions that would bring the greatest benefits to the countries and in prioritisation of strategies and financing modalities that could be employed to achieve win-win outcomes of reducing the prevalence and economic costs of NCDs while at the same time building the resilience of national economies.

Most recently, at the Pacific NCDs Summit in Tonga in June 2016, Pacific Leaders and ministers expressed serious concern that the response to the NCDs crisis in the Pacific was grossly underfunded in light of its magnitude (SPC 2016c). Consequently, there was support for a Pacific funding mechanism (regional, bilateral and/or national) to better align the level of funding to the burden of NCDs, with agreement to explore options to establish greater synergies between funding sources by December 2018 (SPC 2016c). In her keynote address at the Summit, UNDP Administrator Helen Clark indicated that in April 2015, the UN Chief Executives Board had proposed the development of a Pacific Trust Fund for NCDs which if implemented would be a significant boost to the implementation of the Regional NCDs Roadmap.[17]

6.3.3 National

Based on publicly available and accessible documents at the time of writing, Fiji, Nauru and Tonga have fully developed and are implementing their new national NCDs strategies. Vanuatu has developed a high-level NCDs Roadmap, and is in the process of developing its detailed national NCDs strategy. Solomon Islands has commenced work on a new NCDs strategy to replace its old plan, while PNG has commenced work on its first NCDs strategy. Although Kiribati does not have a sector plan on NCDs, NCDs was one of the key priority areas in the new Kiribati Development Plan, 2016–2019. Samoa and Tuvalu's NCDs strategies ended in 2015 and the author was not able to access information on the status of new NCDs strategies for the two countries at the time of writing.

Fiji became the first country in the Commonwealth Pacific to have both the Head of State and the Head of Government involved in leading the fight against NCDs at the national level (Box 6.1).

The national NCDs strategies that were available for review[18] are strong in their treatise of the main NCDs, their shared risk factors and the planned interventions to address the main NCDs risk factors effectively. The strategies are weaker in their treatise of upstream factors that can impact NCDs, such as trade policies and trade agreements, policy coherence, mutual accountability and governance and other

Box 6.1 High-level political leadership in the fight against NCDs in Fiji

In January 2016, the President of Fiji, His Excellency Major-General (Ret'd) Jioji Konousi Konrote, took on the role as Fiji's champion and leading advocate for the elimination of NCDs. The President's acceptance of the role followed an invitation by the country's Minister of Health and Medical Services at the time, Honourable Jone Usamate. Fiji is also currently in the process of finalising the establishment of a high-level multisectoral committee on NCDs to be chaired by the Prime Minister. The Committee will oversee the implementation of Fiji's national NCDs strategy and is scheduled to meet twice a year.

Source: Fiji Ministry of Health 2016

broader social and environmental determinants of NCDs such as poverty, population growth and climate change. In addition, the strategies could be further strengthened by harnessing the energy of civil society to combat NCDs, incorporating the contributions from regional and international partners, greater utilisation of information and communications technology (ICT) applications for outreach to people in rural and remote communities, and identifying key gaps where targeted operational research could help to provide information that could assist national planning and implementation of effective NCDs interventions across multiple sectors.

The capacity of national systems to respond to NCDs varies among the nine Commonwealth Pacific small states. According to the WHO (2014a), Fiji and Nauru met eight out of the nine criteria used to assess the national capacity to respond to NCDs, while Kiribati, Samoa, Solomon Islands, Tonga and Tuvalu met six out of the nine (Table 6.1). However, currently there is no agreed mechanism to assess accountability indicators that would measure the actual level of implementation of policy, legal, legislative or fiscal reforms that would be required at the national level to enhance effective implementation of priority NCDs interventions (Magnusson and Patterson 2014; 2015).

Commonwealth Pacific small states have implemented various measures to address the key NCDs risk factors.

In terms of addressing tobacco use, all nine Commonwealth Pacific small states are implementing the Framework Convention on Tobacco Control (FCTC) (WHO 2003), although the degree to which respective legislations are FCTC-compliant varies (Kessaram *et al.* 2015a). In 2012, total tax on tobacco as a percentage of retail price ranged from 30 per cent in Solomon Islands to 68 per cent in Tuvalu (World Bank 2014). Fiji, PNG and Tonga have since increased their taxes (SPC 2016a). Tonga has now exceeded the 70 per cent tax threshold.[19] However, in some countries, the base price of tobacco is quite low so despite the higher tax rates, the final prices to consumers are not prohibitive, while for some countries locally produced tobacco prices are not fully transparent (World Bank 2014; Kessaram *et al.* 2015a). Samoa is one of the few Commonwealth Pacific small states that have linked tax and price

Table 6.1 National capacity to respond to NCDs

Nine policy areas to assess national capacity to respond to NCDs	Fiji	Kiribati	Nauru	PNG	Samoa	Solomon Is	Tonga	Tuvalu	Vanuatu
Has an operational NCDs unit/branch or department within the Ministry of Health, or equivalent	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Has an operational multisectoral national policy, strategy or plan of action that integrates several NCDs and shared risk factors	Yes	No	Yes	No	No	No	Yes	No	No
Has an operational policy, strategy or action plan to reduce the harmful use of alcohol	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Has an operational policy, strategy or action plan to reduce physical inactivity and/or promote physical activity	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Has an operational policy, strategy or action plan to reduce burden of tobacco use	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Has an operational policy, strategy or action plan to reduce unhealthy diet and/or promote healthy diets	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
Has evidence-based national guidelines/protocols/standards for the management of major NCDs through a primary care approach	Yes	No	No	No	No	Yes	No	Yes	Yes
Has an NCDs surveillance and monitoring system in place to enable reporting against the nine global NCDs targets	Yes	No	Yes	No	Yes	No	No	No	Yes
Has a national, population-based cancer registry	No	No	Yes	No	No	No	No	No	No
Policy capacity present out of nine	8	6	8	2	6	6	6	6	5

Source: WHO 2013a, 2014

policies to health objectives and also implemented a comprehensive ban on tobacco advertising, promotion and sponsorship within five years of entry into the FCTC (Kessaram *et al*. 2015a).

However, Pacific island countries and territories need to step up their efforts if they are to meet the 'Tobacco Free Pacific by 2025' target (Magnusson and Patterson 2015). As the initial high-level agreement did not have associated milestones and indicators, WHO and SPC are currently working closely with Pacific heads of health to agree on appropriate milestones and indicators to measure progress toward the 2025 target to be tabled for consideration by Pacific health ministers at their next meeting in 2017.[20] Commonwealth Pacific small states could also pursue implementing plain packaging of tobacco products as stipulated in Article 11 of the WHO Framework Convention on Tobacco Control.[21]

Harmful use of alcohol is another key NCDs risk factor. All nine Commonwealth Pacific small states have introduced taxes on alcohol. Countries also have programmes to prevent harmful use of alcohol and policy measures in place to restrict access to retailed alcohol (SPC 2016a).

To combat unhealthy diets, Fiji, Kiribati, Nauru, Samoa, Tonga and Vanuatu have applied taxes on sugar sweetened beverages, with Vanuatu recently increasing its tax rate (SPC 2016a). Except for PNG, all Commonwealth Pacific small states apply taxes on unhealthy foods, including foods with high sugar and fat content and a range of cooking oils. The rate of taxes and applicable items vary. For example, Kiribati applies a 30 per cent tax on sugar, 50 per cent tax on sugar confectionaries and 55 per cent tax on chocolate and other foods containing cocoa, while Vanuatu applies a 20 per cent tax on sugar and sugar confectionaries, but sugar confectionaries containing cocoa are duty free. Tonga applies tax on lard and other pig fat, while these are currently duty free in PNG. Both Tonga and Samoa apply tax on turkey tails, with Tonga applying an excise tax and Samoa applying an import duty (SPC 2016a).

Some countries have removed or reduced taxes on healthy foods to encourage consumption. Tonga has completely removed import taxes on all foods considered to promote healthy living (Tonga 2016a; Tonga 2016b), while Fiji has reduced taxes from 32 to 5 per cent for fruits and vegetables (SPC 2016a).

In addition, some countries are also starting to use health levies as additional tools to reduce consumption on certain goods and to raise revenue. In 2016, Fiji introduced health levies on alcohol, tobacco and sugar-sweetened beverages.[22] However, the revenue raised through the levies goes into the general revenue pool rather than for health.

Except for PNG, all Commonwealth Pacific small states have commenced implementing the WHO Package of Essential Non-communicable (PEN) disease interventions for primary healthcare in low-resource settings (WHO 2010a). Samoa was recognised for successfully adapting the PEN protocol for implementation at the community levels[23] (see Box 6.2).

Box 6.2 PEN Fa'a Samoa: Package of essential non-communicable disease interventions for NCDs in the Samoan way of life

The Samoa Ministry of Health, with support from WHO, adapted the WHO Package of Essential Non-communicable disease interventions for primary healthcare in low-resource settings, for an initiative called PEN Fa'a Samoa – Package of Essential Non-communicable Disease Interventions for NCDs in the Samoan Way of Life. PEN Fa'a Samoa was implemented as a demonstration project in selected participating villages, targeting mainly cardiovascular diseases and diabetes. The village project aimed to address key issues in the health system delivery, integrate village outreach services for NCDs to ensure early detection and increased awareness of NCDs risk factors, and facilitate referrals to district health facilities for treatment and follow-up. The demonstration project at the village level was community-based, integrating the principles from the Pacific Healthy Islands vision to deliver a core set of public health interventions on NCDs, comprising individual, peer, family and community mobilisation components.

The project was launched in November 2014. From December 2014 to February 2015, foundations were laid in the selected villages, participating district health facilities and women's committees, with emphasis on enriching the understanding of NCDs among the villages. In March 2015, the results of the first round of outreach showed that a total number of 1,200 people were screened and around 40 per cent of these people were referred to the closest district hospital. The next steps were to review the case management of referred patients and follow up on their treatment schemes.

The PEN Fa'a Samoa initiative won the 'WHO Best Proposal Award' in recognition of addressing Non-communicable Diseases for Pacific island countries at the 2015 Pacific Health Ministers Meeting in Fiji. It is recognised as a best-practice example as it demonstrates the value of community involvement in the fight against NCDs. It also attests to the value of the WHO PEN as an appropriate tool to address NCDs at the rural and community level.

Source: Samoa Ministry of Health

Countries have also made progress in improving the availability and accessibility of NCDs-related data. The WHO STEPwise approach to Surveillance (STEPS) (WHO 2003a) is the principal method adopted to collect, analyse and disseminate data on NCDs risk factors. The second rounds of STEPS surveys have been completed in Fiji, Nauru and Solomon Islands and are well advanced in Kiribati, while Tuvalu recently completed its first STEPS survey. A global school-based health survey has been completed in Fiji, with similar surveys for Samoa and Vanuatu in the advanced planning stage. Initial indications from some of the completed surveys suggest possible reductions in some risk factors (physical inactivity and tobacco use), but no change or worsening in other risk factors (obesity and diabetes) (SPC 2016a).

6.4 Key challenges and opportunities

Despite the level of progress achieved by the Commonwealth Pacific small states, the enormity of the NCDs challenge remains overwhelming for many. Much more needs to be done by the countries themselves, their development partners and the international community to help the Commonwealth Pacific small states respond effectively to the NCDs epidemic. The following key challenges need to be addressed urgently to help countries unlock some of the constraints that undermine effective implementation of priority NCD interventions.

6.4.1 Trade and health sector policy coherence

There is a direct and intricate relationship between trade, health and NCDs, therefore achieving policy coherence between 'health policies that are trade compliant' and 'trade agreements that protect public health' is of crucial importance and requires closer engagement between the health and trade sectors (Legge *et al.* 2013; UNDP 2013a). Trade has been identified as one of the multiple structural drivers of NCDs in the Pacific (Sahal Estimé *et al.* 2014). Trade has particularly been linked with obesity and NCDs prevalence in Fiji and Tonga (Sahal Estimé *et al.* 2014). Trade policies since the 1960s have had a major precipitating effect on the nutrition transition in Pacific countries by increasing the availability of imported and increasingly processed foods (UNDP 2013a; Snowdown *et al.* 2013). Higher consumption of these foods has followed their increased availability, as well as the monetisation of island economies (Sahal Estimé *et al.* 2014).

A number of trade negotiations currently underway can strongly influence the social determinants of health and NCDs (Legge *et al.* 2013), including the Pacific Agreement on Closer Economic Relations (PACER) Plus,[24] and the Economic Partnership Agreement (EPA) with the European Union.[25] Accession to the World Trade Organisation (WTO), while appearing to be attractive, has some drawbacks for small countries, as intending members are now required to make far more changes to their trade policies than countries that joined earlier, which could potentially decrease their policy space and flexibility to deal with domestic policy and regulations such as introducing a ban on tobacco or alcohol advertising (Legge *et al.* 2013). The Commonwealth Pacific small states that are currently not WTO members or observers are Kiribati, Nauru and Tuvalu. In addition, the proposed Trans-Pacific Partnership Agreement[26] could impact Commonwealth Pacific small states as some of the provisions being discussed (stronger intellectual property and investment provisions that can allow foreign companies to sue governments over policies and laws that reduce the value of their investments) could have implications for public health policies such as tobacco control policy (Legge *et al.* 2013).

Trade of tobacco, alcohol and unhealthy food is also exacerbated by continued global marketing of these products, spurred by powerful transnational companies. These companies have the potential to curb efforts to combat NCDs through political lobbying, legal manoeuvres, pre-emptive self-regulatory schemes, corporate social responsibility initiatives and other strategies to shape community perceptions (Magnusson and Patterson 2015).

Therefore, Commonwealth Pacific small states need new ways of working together to guard against industry interference in policy-making when determining trade, investment, and commerce policies.[27] Countries also need to consider setting up formally mandated mechanisms, with associated institutional arrangements, for ongoing co-operation between the Trade and Health Ministries (Legge *et al*. 2013; UNDP 2013a; Bonita *et al*. 2013), such as a 'National Trade and Health Committee' whose role would be to ensure there is policy coherence aimed at protecting health while generating trade for economic development (Legge *et al*. 2013); UNDP 2013a, Bonita *et al.* 2013; Magnusson and Patterson 2015). However, such mechanisms require lawyers, health policy officials and trade officials who are experts in their own fields and fully conversant with the other disciplines, emphasising the need to have the appropriate expertise in such mechanisms (Magnusson and Patterson 2015). Hence, there is a need to develop or strengthen core capacity across a range of disciplines at the national and/or regional levels, including but not limited to expertise in public health law, health economics and policy, trade law and policy, commerce law and policy, fiscal policy and regulations and WTO rules and regulations to (a) enable them to respond effectively to the need to pursue legal and legislative reforms, (b) engage effectively with complex negotiating processes involved with trade agreements and (c) counter the power of global marketing by transnational companies that are driving the patterns of trade on NCDs risk factors in the Pacific (Magnusson and Patterson 2014; 2015).

6.4.2 Effective multisectoral approaches

Policy coherence and mutual accountability across all sectors involved in addressing NCDs is key to making multisectoral approaches in NCDs work more effectively. The Fiji, Nauru, Tonga and Vanuatu NCDs strategies emphasise the importance of multisectoral action to address NCDs effectively. Nauru, Tonga and Vanuatu have all established multisectoral national NCDs committees to oversee the implementation of their respective NCDs strategies. Fiji is in the process of finalising its national multisectoral NCDs committee, which will be chaired by the Prime Minister.

A multisectoral mechanism is, however, just a means to an end. The ability of such a mechanism to deliver depends on a range of factors including, but not limited to, the clarity of its purpose, governance arrangements and the level of resources available for implementation. Poor governance and accountability lead to weak implementation of multisectoral approaches addressing NCDs. A key impediment to progressing good policies and strategies in the Pacific is weak implementation (World Bank 2014; Magnusson and Patterson 2015). This is also the case for addressing NCDs in the Pacific, where it is not the absence of evidence for action, or lack of knowledge about effective policies, but translating knowledge into actions at the country level that hinders progress (Magnusson and Patterson 2015). Poor governance is one of the major causes of weak implementation (Magnusson and Patterson 2015).

Actions for reducing risk factors for NCDs require the involvement of a range of ministries and stakeholders outside health. In practical terms this will require governance structures to ensure policy coherence and mechanisms to formalise

and maintain government-wide commitment (Bonita *et al.* 2013; Magnusson and Patterson 2015) and a whole-of-society involvement and accountability, as only 20 per cent of health outcomes depend on the strength of healthcare systems with the rest a function of the broader determinants of health, which are addressed by stakeholders outside the health sector (World Economic Forum 2016).

Limited legal capacity at the national and regional level undermines the ability of countries to implement the necessary legal and legislative reforms to address NCDs effectively. All the national NCDs strategies have incorporated policy, fiscal, legal and legislative reform objectives. However, many of the countries lack the resources to have a full spectrum of legal and policy expertise across the health, trade and fiscal jurisdictions (Magnusson and Patterson 2014). Given the relative lack of resources in some of the Commonwealth Pacific small states, this mix of expertise may be more appropriately provided from a 'pooled' regional technical capacity, using existing regional structures and mechanisms such as the Quintilateral group,[28] the Pacific NCDs Network, Pacific Monitoring Alliance for NCDs Action and the UN Theme Group on NCDs in order to assist countries in these technical areas while they consider appropriate longer-term national-level solutions.

In the experience of the Caribbean, where 12 countries had successively established national NCDs Commissions since 2005,[29] these multisectoral bodies faced many challenges (The Healthy Caribbean Coalition 2015). Practically all the multisectoral mechanisms relied on ministries of health for technical support and/or financial support. Some did not have strategic plans, or dedicated staff and budget allocations. In some countries there was a perceived lack of political support to push reforms, and in others there was lack of interest from sectors outside of health. Many have established dedicated secretariats but were reliant on ministries of health for resourcing, while some had yet to establish dedicated secretariats. Governance arrangements and accountabilities were also not very clear in some of the mechanisms. The 12 bodies were also not able to maximise south-south co-operation arrangements to share experiences across the region.

The main lesson from the Caribbean experience is that it is not enough to just set up multisectoral mechanisms and expect them to work. Policy coherence, mutual accountability, clarity in roles and responsibilities, adequate resourcing (both human and financial), having strategic planning processes and clarity around governance arrangements are critical ingredients to successful multisectoral actions. It is also important to establish mechanisms outside of health and other government ministries where all members participate as equals. The lessons arising from the Caribbean are important for the Pacific region as it embarks on maximising the benefits from multisectoral mechanisms.

There is value in promoting south-south co-operation between the various multisectoral mechanisms from countries within the same region, or between regions such as the Pacific and Caribbean regions through sharing of information, experiences and resources. The Caribbean experience also highlights the importance of having a regional Secretariat that could help facilitate/co-ordinate the sharing of information and experiences between countries, as well as to produce regional progress reports on

agreed areas. For the Pacific, this role could probably be performed by a 'strengthened' secretariat for the Pacific NCDs Network.

At the national level, Commonwealth Pacific small states are also learning from their experience. A review of Tonga's 2010–2015 NCDs strategy identified inadequate co-ordination and cross-sectoral collaboration as the key bottleneck to implementation (Ministry of Health, Tonga, 2015). Consequently, Tonga established a new multisector governance framework to oversee the implementation of its refreshed NCDs strategy for 2015–2020, streamlining governance arrangements to one plan, one financing mechanism, one co-ordinating mechanism and one reporting mechanism (Ministry of Health, Tonga, 2015). Pursuant to a Cabinet decision, Tonga established a governance mechanism outside of government ministries that also included civil society organisations and formally established four multisectoral advisory committees, one for each of the four main NCDs risk factors (Physical Activity Advisory Committee, Healthy Eating Advisory Committee, Tobacco Control Advisory Committee and Alcohol Harm Reduction Advisory Committee). Tonga's focus on providing greater clarity on governance aims to enhance more effective implementation of NCDs interventions by multiple stakeholders across multiple sectors.

6.4.3 Financing for NCDs

The discussion on financing interventions to tackle the NCDs crises effectively needs to shift from a 'discourse on health issues and diseases' to 'the broader development paradigm acknowledging NCDs as a leading global development challenge and the single largest killer of the world's populations' in much the same way as climate financing has been discussed. Climate change and NCDs are perhaps the two most important challenges to human health and security in this century. However, the global community has yet to address a global financing mechanism to respond to the global NCDs epidemic, which is currently killing millions of people every year – far, far more than climate change at this point in time.

While the social, health and economic costs of NCDs have been recognised through various global agreements and declarations, international development funding has not kept pace with the political aspirations (Byfield and Moodie 2013). In addition, although NCDs are the leading cause of death globally and responsible for more deaths than all other causes combined for the past decade (WHO 2010), international financing for NCDs remains low in absolute and relative terms. For instance, of the US$458 billion of development assistance provided for health in developing countries between 1990 and 2014, only 1.5 per cent was allocated to NCDs, compared to 28 per cent for maternal and child health, 23 per cent for HIV/AIDS, 4 per cent for malaria and 3 per cent for tuberculosis (Dielman *et al*. 2015).

A global financing mechanism is needed to help the low and middle-income countries that carry the bulk of the burden of NCDs to address the rising NCDs epidemic more effectively. This financing mechanism can be similar to the Green Climate Fund and the Global Fund to fight HIV/AIDS, tuberculosis and malaria.

Given their unique challenges, particularly low economic resource base and small population size (Briguglio 2014), the majority of Commonwealth Pacific small

states find it difficult to finance the fight against NCDs. For many of these countries, even with the full implementation of fiscal policies and legislations that apply tax on tobacco, alcohol, and unhealthy foods, they would still not raise enough revenue to meet the financing gap they face to respond effectively to the NCDs crisis.[30] In addition, as was seen in Fiji's case, taxes on these items and health levies collected are not necessarily reinvested in the health sector.

Therefore, it was no surprise that Pacific countries at the 2016 Pacific NCDs Summit supported the proposal to create a Pacific funding mechanism (regional, bilateral and/or national) to address the financing gap and better align the level of funding to the burden of NCDs, with the target of raising US$100m for a regional NCDs response by December 2018.[31] While the Summit Outcome Document did not contain details on how the US$100 million amount was to be reached, the challenge at this point is the difficulty of attracting donor interest due to the sluggish global economy, competing priorities and doubts whether a regional financing mechanism will be more successful than existing bilateral aid programmes (UNDP 2016).

However, the Pacific NCDs financing mechanism should not be a debate about bilateral versus regional or multilateral channels of funding to countries. The underlying principle of the financing mechanism should be that it is a facility to respond to the totality of the NCDs challenge in the region. The funding does not have to be pooled into one account or managed by one entity. The funding mechanism could be designed in such a manner that it responds to, and satisfies the specific requirements of, recipient Pacific countries, donor/development partners and regional stakeholders and can utilise a mix of bilateral, regional and multilateral channels to meet those requirements. It should also capture the level of national funding that is available to ensure that external resources target genuine financing gaps. Such an approach could provide a more holistic picture of the total NCDs financing available to Pacific island countries and territories, comprising a mix of development partner and national-level funding.

A crucial element for a regional financing mechanism is determining the level of funding that would be required on an annual basis. Although the target is US$100 million by December 2018, it would still be extremely useful for all Pacific island countries to individually quantify the actual level of unmet funding needs for NCDs interventions they each have, and also to identify the proportion of the unmet need to be financed under bilateral, regional and/or multilateral channels. A similar exercise should be undertaken by regional actors to quantify the services that need to be provided through regional approaches to assist countries. The sum total of all the individual country and regional estimates could form the initial basis for an annual level of funding for NCDs.

While discussions continue on a Pacific financing mechanism for NCDs, at the national level countries are exploring mechanisms to maximise the impact of development assistance they currently receive for NCDs. For example, Tonga's new governance framework has put in place a single financing and co-ordinating mechanism for NCDs that requires development partners to channel their support for NCDs interventions through this mechanism, which will in turn support all implementing partners within and outside of health.

However, it is clear that without a dedicated financing mechanism from development partners to assist the efforts of Pacific countries to combat NCDs, the social, health and economic costs of NCDs are likely to worsen in the coming years.

6.4.4 Monitoring and evaluation

There has been some notable improvement on data on NCDs in recent years with the implementation of the WHO STEPS surveys and school-based health surveys by countries.

Some countries have also incorporated additional indicators in their respective NCDs strategies. For example, Fiji has included 38 illustrative indicators in its NCDs strategy, most to be collected quarterly, some six-monthly and some annually (MoHMS 2014). These indicators will be complemented by data collected under the STEPS and school-based health surveys collected every three to five years. Tonga has included accountability indicators to measure the country's performance against its commitments to policy, legal, legislative and fiscal reforms that will strengthen national capacity to implement priority NCDs interventions (MoH 2016). Each of the new NCDs strategies cited have built-in monitoring and evaluation frameworks to measure the rate of implementation and impact of identified activities.

The Pacific Monitoring Alliance for Non-communicable Disease Action, works to achieve three primary objectives: (i) strengthening in-country capacity for collecting, analysing and translating quality data into robust policy and action for NCDs, (ii) enhancing sustainable regional public goods by supporting investment in regional technical capacity to expand data improvement services, and (iii) pursuing robust innovation and accountability mechanisms by developing innovative NCDs monitoring systems and mutual accountability mechanisms.[32] Pacific countries are already starting to benefit from MANA through technical support provided through its partners across all three objectives. MANA is currently finalising development of the MANA Dashboard for NCD Action, which will allow countries to easily view progress against agreed key NCDs actions, including those in the NCDs Roadmap, WHO Global Action Plan on NCDs (including the best buys and the nine voluntary global NCD targets), the proposed SDGs indicators for Target 3.4.1, and the FCTC, as well as other key indicators developed at national, subregionalism and global levels (SPC 2016a). Continued efforts are also focused on strengthening national mechanisms to collect, analyse and report disaggregated data on NCDs by sex, age and location, highlighting the importance of having good-quality data from rural as well as urban areas.[33]

The Pacific NCDs network, the Pacific MANA, holds tremendous potential to revolutionise the surveillance and monitoring of NCDs interventions in the region if well supported. The outcome of MANA's work would provide a greater opportunity to evaluate the effectiveness of NCDs programmes, nationally and regionally, against agreed targets. It would also provide important information that would facilitate more effective planning and decision-making at country level on policy interventions that would bring the greatest benefits to the countries and in prioritisation of strategies and financing modalities that could be employed to achieve win-win outcomes of

reducing the prevalence and economic costs of NCDs while at the same time building the resilience of national economies.

The WHO Global Monitoring Framework for the nine Voluntary NCDs targets, with its associated 25 indicators, has been adopted by Pacific countries and has been incorporated into national NCDs strategies. However, the targets and indicators currently focus on monitoring behavioural risk factors and physiological and epidemiological outcomes, rather than accountability for implementation of the evidence-based interventions identified in the WHO Global Action Plan (Magnusson and Patterson 2014; Magnusson and Patterson 2015). This is an area that could be strengthened to include targets and indicators aimed at measuring commitment and accountability of countries in leading the fight against NCDs at national levels (Magnusson and Patterson, 2014; Magnusson and Patterson 2015).

6.4.5 Civil society engagement

Meaningful and effective engagement by civil society, including non-governmental organisations, churches, academia and community groups can help turn the tide on the NCDs crisis in the Pacific. The WHO global action plan recognises that successful action on NCDs requires actions to be taken by a broad number of stakeholders, including civil society organisations (WHO 2013b). One of the critical factors in the successful fight against HIV/AIDS, tuberculosis and malaria was the involvement of civil society organisations in national co-ordinating mechanisms to combat these major communicable diseases (Global Fund 2005).

Meaningful co-ordinated engagement of civil society organisations is currently a missing link in the Pacific architecture to address NCDs. While civil society organisations are engaged at the national level,[34] there is scope for a dedicated and co-ordinated regional coalition among Pacific civil society organisations that could unite and have a common voice on NCDs issues at the regional and global level, while assisting actions at the national levels.

The Global NCDs Alliance[35] and the Healthy Caribbean Coalition[36] are two examples of co-ordinated civil society mechanisms in the fight against NCDs.

Similar to the Caribbean model, a regional Pacific civil society alliance could be appropriate to advocate for people living with NCDs, help drive the agenda to reduce the behavioural NCDs risk factors, and hold governments and development partners accountable to regional and national NCDs strategies.

6.4.6 NCDs and poverty

NCDs and poverty continually reinforce each other and can undermine efforts to reverse the NCDs crises and eradicate poverty in the Pacific (WHO 2009; WHO 2010). Poor people often become trapped in a dangerous cycle where poverty contributes to NCDs and NCDs contribute to poverty, especially in low-income households where unhealthy behaviours, poor physical status, and the high cost of NCDs-related healthcare often lead to loss of household income (WHO 2009; WHO 2010). The chronic nature of NCDs, the cost for lifelong treatment and the higher non-clinical

costs relating to frequency of follow-up contacts and associated transport and other opportunity costs for patients put serious strain on already stretched household incomes for rural populations with NCDs (WHO 2006; WHO 2009, WHO 2010).

The high prevalence of NCDs in Commonwealth Pacific small states can exacerbate poverty, and increasing levels of poverty can further undermine efforts to halt the NCDs epidemic. The proportion of the population below the respective national poverty lines in the Commonwealth Pacific small states range from 13 per cent in Vanuatu to 35 per cent in Fiji (ADB 2016). The poverty rates for Samoa, Tonga and Tuvalu, where NCDs are particularly high, have increased in recent years (ADB 2016). The rural poor with NCDs in some Pacific countries are doubly disadvantaged as many still face a double disease burden with infectious diseases still prevalent (World Bank 2014). As poverty and NCDs have a self-reinforcing relationship with each other (WHO 2006; WHO 2009; WHO 2010), reducing poverty to achieve the first two targets of Sustainable Development Goal 1 – 'End poverty in all its forms everywhere' (UN 2015) will require, among others, halting and reversing the NCDs crisis in the region.

6.4.7 NCDs, gender and youth

Women and men have different levels of exposure and vulnerability to NCDs risk factors. Women have higher rates of obesity, are less physically active and are more vulnerable to diabetes than men, and men have a higher rate of smoking and are more likely to die from lung cancer and also have a higher risk of developing cardiovascular diseases than women (WHO 2002a, PAHO/WHO no date). The prevalence and association of the NCDs risk factors to gender in the Pacific mirrors that of the global picture, although in Nauru women have a higher smoking prevalence than men (WHO 2014b).

The combination of obesity, diabetes and physical inactivity increases the risk of women suffering from cardiovascular diseases and other NCD-related complications, such as diabetes-related blindness, amputations and kidney dysfunction. Thus, while males have a higher prevalence of cardiovascular diseases, more women tend to die from them (Bonita and Beaglehole 2014). This highlights the importance of cardiovascular disease in women, where it is responsible for many more deaths than all cancers combined (WHO 2002a).

While NCDs affect both women and men, there is a case for Pacific countries to acknowledge the importance of women's health to development and encourage clear policy interventions aimed at improving the health of women by specifically targeting physical inactivity, obesity, salt reduction, smoking, and alcohol consumption.

Most NCDs have their origins in the early years of life – during adolescence and youth (Baldwin *et al.* 2013). The WHO estimates that 70 per cent of premature deaths in adults are the result of behaviours begun during adolescence and youth, and research indicates that behaviours associated with two of the key risk factors for NCDs – tobacco and alcohol use – are likely to start or become established during adolescence (Baldwin *et al.* 2013). The prevalence of tobacco use and alcohol consumption is

increasing among adolescent and youth populations in Pacific countries, as are the rates for being overweight, adolescent obesity and physical inactivity in both boys and girls (WHO 2014b).

Therefore, Commonwealth Pacific small states should consider implementing a twin strategy aimed at (i) empowering and mainstreaming adolescents and youth as partners in the fight against NCDs and provide them with adequate resources to become advocates, educators and implementers of interventions addressing NCDs, and (ii) invest in programmes that target the promotion of good behaviours and reduction of the NCDs behavioural risk factors among adolescents and youths for implementation by young people themselves, with support from the respective multisectoral NCDs mechanisms.

6.4.8 Impact of climate change

There is increasing evidence that climate change can have direct and indirect effects on NCDs (Friel *et al*. 2010). Climate change can affect cardiovascular health. Several environmental air pollutants linked to climate change have been associated with increased hospitalisation and mortality due to cardiovascular disease (Friel *et al*. 2010). Increasing temperatures have also been associated with heat-related mortality and morbidity arising from overloading of the cardiovascular and respiratory systems. The physiological effect of increased heat exposure leads to increased core body temperature. Obesity exacerbates symptoms arising from heat exposure and obese individuals reach higher core body temperatures faster than non-obese individuals and are therefore at greater risk of heat-related mortality and morbidity (Friel *et al*. 2010).

Climate change can affect respiratory health. Changing climate conditions and increasing temperatures compromise outdoor air quality by increasing the production of tropospheric ozone, which contributes to respiratory tract irritation, leading to chronic pulmonary and lung diseases; and increasing respiratory allergic diseases such as asthma due to increased pollen, and respiratory illness associated with increased numbers of more intense bushfires particularly among susceptible groups such as asthmatics, children and the elderly (Friel *et al*. 2010).

Climate change related weather events can also affect NCDs. The projected sea level rise by the end of this century will put many Pacific island atoll countries at risk of salt water inundation (Friel *et al*. 2010). Damage to food gardens and health infrastructure may increase morbidity and mortality in people with underlying conditions such as diabetes (International Diabetes Federation 2012).

Well-designed climate change mitigation strategies can provide a win-win opportunity for climate change mitigation and contribute to reducing the prevalence of NCDs (Friel *et al*. 2010). Strategies such as renewable energy programmes or promotion of low-emission vehicles can contribute to reducing greenhouse gas emissions, improving air quality and improving respiratory and cardiovascular health (Friel *et al*. 2010).

6.4.9 Improved urban design of towns and cities

Improving urban design to incorporate cycling paths, extended walkways and exercise parks can encourage people to become more physically active, contributing to weight reduction, improved physical health, and improved respiratory and cardiovascular health (Friel *et al*. 2010). Most urban centres, towns and cities in the Commonwealth Pacific small states will continue to expand from the combined effect of rural-urban migration and urbanisation, driven in some of the countries by rapid population growth. By 2050, it is likely that there will be at least one city of over a million people in the Pacific – Port Moresby – where more than half the population currently live in informal settlements (Connell 2016). Modern urban planners can make enormous contributions to efforts to enhance physical activity and improve health, through implementing urban designs that offer greater opportunities to people to engage in different forms of physical activities. Such designs have implications for NCDs. Compact, walkable urban environments are a key mechanism to promote physical activity and reduce body mass indices, car travel, and air pollution (Popkin 2006). Workplace proximity is a major influence on the commuting decision to walk (Friel *et al*. 2010).

6.4.10 Information and communications technology

Emerging opportunities in ICT can help revolutionise the delivery of health promotion and healthcare services to people with NCDs in rural and remote communities in the Pacific. The last ten years have seen significant growth in the ICT penetration and diffusion in the Pacific region, highlighting the opportunity it offers to improve the delivery of diagnostic and treatment services to people living with NCDs and other ailments in remote communities (see chapter 7).

ICT enables online communication about medical issues and diagnosis of complicated diseases and their management by linking health practitioners who are separated geographically (Shiferaw *et al*. 2012). ICT can also facilitate dissemination of public health information on major public health threats; facilitate collaboration and co-operation among health workers particularly in rural and remote areas, including sharing of learning and training approaches; strengthen the ability to monitor the incidence of public health threats and respond in a more timely and effective manner; and improve the efficiency of administrative systems in healthcare facilities (Chetley, InfoDev, 2006). These technologies exist now in the Pacific and in time, under the right conditions and an enabling environment, could potentially revolutionise the delivery of health services to rural and remote communities, including in the fight against NCDs.

6.5 Looking to 2050

The Framework for Pacific Regionalism (PIFS 2014a) approved by Pacific Islands Forum Leaders in 2014 lays out the vision for the Pacific region:

> *a region of peace, harmony, security, social inclusion, and prosperity, so that all Pacific people can lead free, healthy, and productive lives.*

The current NCDs crisis, if not halted or reversed, will undermine the Pacific region's ability to achieve the SDGs and the overall Pacific Vision.

6.5.1 Two possible paths to 2050

Looking to 2050, the ability of the Commonwealth Pacific small states to achieve the SDGs and the overall Pacific Vision will depend in part on choices made by their leaders and people on how they tackle, among other things, the NCDs epidemic. One of two scenarios can be expected to occur.

Deterioration

The first possible scenario, and one which is more likely to occur unless the current NCDs epidemic is halted and reversed, is the deterioration in the health and economic livelihoods of the countries. Under this scenario, the potential negative impact of NCDs on each country's social and economic future is not fully appreciated, resulting in ineffective political leadership in addressing the NCD epidemic. The necessary legal and fiscal reforms required to enhance effective implementation of the priority NCD interventions agreed internationally, regionally and nationally are not in place. Multisectoral NCD strategies do not achieve their full potential due to inadequate buy-in, resourcing and ownership from other sectors and partners. The fight against NCDs is relegated to a 'health only issue, rather than a priority development challenge for the nation' to be fought by already struggling and under-resourced health ministries. Political leaders, government ministries, the private sector and civil society organisations are oblivious and indifferent to the human and economic costs posed by NCDs. Multinational companies continue at will to push products that are known causes of NCD risk factors, including tobacco products, alcohol, sugar, salt and fatty products. The NCDs epidemic gathers momentum. Poverty worsens. Economic performance of countries deteriorate as the NCDs epidemic continues to undermine the quantity and quality of the countries' workforce through NCD-related mortality and morbidity. The ability of the countries to achieve the SDGs by 2030 and the Forum Leaders' Vision for the region by 2050 becomes more difficult.

Transformation

The second possible outcome and the one which the Commonwealth Pacific small states desire is that of transformation. Transformation reflects the harnessing of sufficient political will to lead the fight against NCDs. Under this scenario, there is explicit political leadership driving the NCDs agenda. The necessary legal and fiscal reforms required to enhance effective implementation of the priority NCD interventions agreed internationally, regionally and nationally are in place. National capacity and expertise is built and retained across a range of disciplines at the national levels, including but not limited to, expertise in public health law, health economics and policy, trade law and policy, commerce law and policy, fiscal policy and regulations and WTO rules and regulations to enable countries to (a) respond effectively to the need to pursue legal and legislative reforms, (b) engage effectively with complex negotiating processes involved with trade agreements and (c) counter the power of global marketing by transnational companies that are driving the patterns

of trade on NCDs risk factors in the Pacific. Mandated mechanisms are established to ensure there is policy coherence aimed at protecting health, while generating trade for economic development. The potential human, social and economic costs of NCDs are understood by the whole society. The fight against NCDs becomes everybody's business – a whole-of-government and whole-of-society undertaking inclusive of government sectors, the private sector, faith-based organisations, non-governmental organisations, community-based organisations, other civil society organisations and development partners. Multisectoral NCD strategies reflect policy coherence with other sectors and partners and are effectively implemented, monitored and evaluated. The countries adopt a 'many partners and one team approach' guided by one plan, one financing mechanism, one co-ordination mechanism, and one monitoring and evaluation mechanism that clearly articulates appropriate governance arrangements and clarity on the respective roles and responsibilities of all stakeholders involved in the fight against NCDs. Multinational companies follow due process. The NCDs epidemic is halted and reversed. Poverty levels diminish. The economic performance of countries improves as the quantity and quality of the countries' workforce increases due to the reduction of NCD-related mortality and morbidity. The countries are on a better trajectory to achieve the SDGs by 2030 and the Forum Leaders' Vision for the region by 2050.

6.5.2 Political leadership is key to the fight against NCDs toward 2050

Political leadership is key to the path to transformation. The Pacific NCDs Roadmap emphasised that it was important that Heads of State take national responsibility in the battle against NCDs, highlighting their authority and convening power in bringing all stakeholders together to tackle NCDs. This would send a strong signal to the nation, to development partners, and in particular to transnational corporations pushing NCDs risk factors, that protecting the health and lives of people was paramount (World Bank 2014). Presidents, Prime Ministers and senior cabinet members need to become personally involved in the fight against NCDs - their leadership should be directed towards framing NCDs as an obstacle to national economic and social development, and to fostering an intersectoral, government-wide response (Magnusson and Patterson 2014; Bonita *et al.* 2013). Institutionalising and formalising mechanisms are also vital to ensure that NCDs do not fall off the political agenda.

While there is a high level of political capital at the regional level to address the NCDs epidemic, as evident in the various declarations since 2011,[37] the translation of these political commitments into effective action at the national level has been uneven, with some countries making more progress than others (Magnusson and Patterson 2015). For example, in the two years since the adoption of the Pacific NCDs Roadmap in 2014, only four of the nine countries (Fiji, Nauru, Tonga and Vanuatu) have completed and are implementing their national Roadmaps/NCDs strategic plans. Looking to 2050, this needs to change. Strong political leadership will be needed to achieve effective whole-of-government and whole-of-society action to curb the NCDs epidemic and ensure that Commonwealth Pacific small states are on a trajectory to achieve the SDGs and the Forum Leaders' Vision for the Pacific.

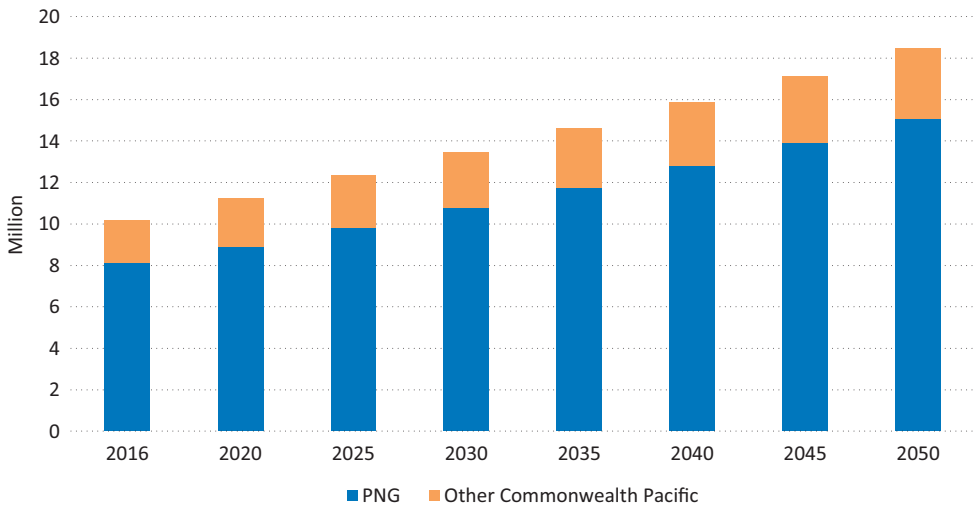
6.5.3 Population growth to drive rising NCDs prevalence

Population growth will have a varying impact on the prevalence of NCDs in the Commonwealth Pacific small states in the period leading up to 2050. Population growth impacts NCDs in two ways. First, it increases the total pool of people of all age groups that are exposed to NCD risk factors. Secondly, improving longevity and life expectancy raises the population that are above 60 years of age, who are more prone to NCDs.

The total population of the Commonwealth Pacific small states is projected to almost double from an estimated 10.2 million people in 2015 to about 18.5 million by 2050, led by the projected population growth of PNG (Figure 6.9) (SPC 2016b). The projected population growth of each of the countries can be characterised by five broad patterns, ranging from very rapid population growth in Solomon Islands to negative population growth in Tonga (Table 6.2). Solomon Islands is expected to surpass Fiji as the second most populated country in the Pacific by 2031.

Each growth pattern presents different implications for NCDs prevalence in each country. Countries that are expected to exhibit a very rapid or rapid population growth (Solomon Islands, Vanuatu, PNG and Kiribati) are likely to face huge challenges in responding to the NCDs crisis. This will result from the combined effect of the rapidly increasing pool of the general population that are exposed to the NCD risk factors, and the increasing numbers of the aged population vulnerable to NCDs, if measures are not in place to curb the NCDs prevalence in these countries. Even for those countries that face a slow to negative trend in population growth (Fiji, Tuvalu and Tonga), the impact of NCDs on the aging population will continue to be a challenge.

Figure 6.9 Commonwealth Pacific population projection to 2050



Source: SPC 2016b

Table 6.2 Population projection by country

	2016	2020	2030	2040	2050	Population growth
PNG	8,151,300	8,901,200	10,790,800	12,798,600	15,057,600	Rapid
Fiji	880,400	895,400	918,700	927,900	924,700	Slow
Solomon Is	651,700	714,800	902,300	1,123,600	1,351,600	Very rapid
Vanuatu	289,700	319,500	397,300	479,500	561,900	Rapid
Samoa	194,000	199,300	212,700	227,800	239,100	Medium
Kiribati	112,900	125,100	149,800	174,800	200,800	Rapid
Tonga	100,600	100,000	98,400	96,700	93,600	Negative
Nauru	10,800	11,200	12,100	13,200	14,200	Medium
Tuvalu	10,100	10,300	10,600	10,600	10,600	Slow

Source: SPC 2016b

Rapid population growth is also likely to drive rapid unplanned urbanisation and increasing levels of urban poverty (see chapter 8), both of which also drive NCDs. For the countries that are projected to have very rapid or rapid population growth, implementing effective policies to manage population growth can make significant contributions to efforts aimed at reducing NCDs. Such policies may also have the added bonus of decreasing poverty and reducing the rate of unplanned urbanisation.

6.5.4 Rising NCDs prevalence to drive rising costs of NCDs

The cost of treating NCDs is expected to rise if efforts to tackle the NCDs epidemic are not successful. For countries where population growth is projected to be very rapid or rapid in the period leading up to 2050, the cost of treating NCDs is expected to grow significantly as a result of increases in NCDs prevalence that are spurred by population growth. Notably for these countries, even if the NCDs prevalence remains unchanged or is reduced at a rate that is lower than the rate of population growth in the period to 2050, the costs of treating NCDs will still grow substantially as a result of population growth. However, for countries projected to record low or negative population growth (Fiji, Tuvalu, Tonga), the impact of population growth on NCDs prevalence is likely to be low. Thus, for these countries, the cost of treating NCDs is unlikely to be as high compared to countries with a projected high population growth.

To illustrate, using the 'cost per person year' estimates from previous studies,[38] the potential annual cost of treating adult (age 20 years and over) diabetes in Vanuatu, Solomon Islands and Nauru for 2050 is calculated based on three hypothetical scenarios (see Appendix 6.1 for details on calculations):

- Scenario 1: diabetes prevalence declines by 1.5 percentage points every five years
- Scenario 2: diabetes prevalence remains unchanged
- Scenario 3: diabetes prevalence increases by 1.5 percentage points every five years

In scenario 1 where the diabetes prevalence declines, the estimated adult population with diabetes in the Solomon Islands and Nauru is projected to decline in tandem

Table 6.3 Estimated adult population with diabetes prevalence to 2050

	2015	2020	2025	2030	2035	2040	2045	2050
SCENARIO 1								
Vanuatu	28,134	30,163	31,743	33,016	33,646	33,610	32,623	30,645
Solomon Is	52,973	55,534	57,812	59,455	59,638	58,204	55,050	49,951
Nauru	1,334	1,306	1,307	1,289	1,278	1,237	1,190	1,140
SCENARIO 2								
Vanuatu	28,134	32,748	37,695	43,262	49,175	55,530	61,983	68,500
Solomon Is	52,973	60,978	70,379	81,207	92,770	105,143	118,570	133,202
Nauru	1,334	1,392	1,490	1,579	1,693	1,782	1,880	1,996
SCENARIO 3								
Vanuatu	28,134	35,334	43,647	53,508	64,704	77,450	91,343	106,355
Solomon Is	52,973	66,423	82,947	102,959	125,902	152,082	182,090	216,454
Nauru	1,334	1,477	1,672	1,869	2,108	2,328	2,571	2,851

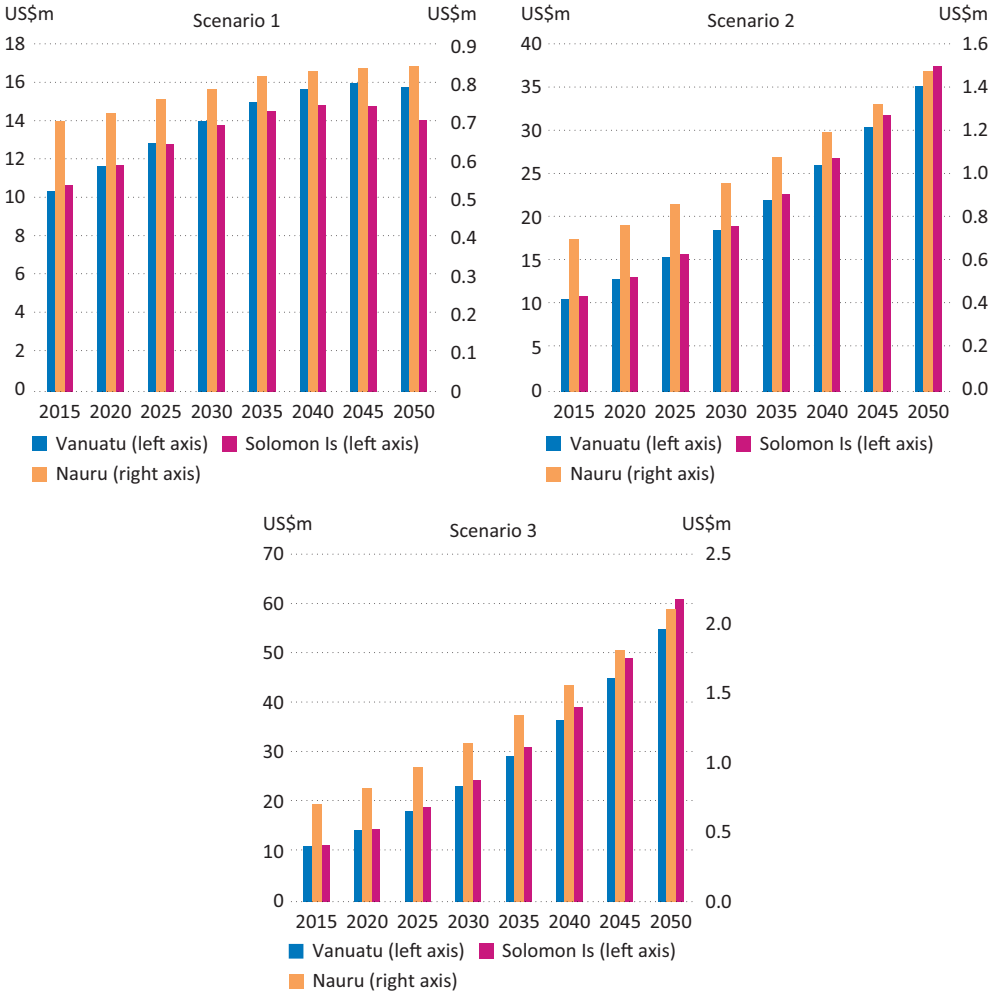
Source: Author's calculations

in the period to 2050 (Table 6.3). In contrast, the estimated diabetes prevalence in Vanuatu is projected to increase by 9 per cent to 30,645 in 2050 compared to 2015 (Table 6.3), as the population growth rate far outpaces the decline in the diabetes prevalence rate. An important observation under this scenario is that despite the decline in diabetes prevalence, the annual cost for treating diabetes is projected to increase for all three countries, mainly due to inflation (Figure 6.10).

In scenario 2 (diabetes prevalence remains unchanged), the estimated adult populations with diabetes in Vanuatu, Solomon Islands and Nauru are all projected to increase in 2050 despite the diabetes prevalence remaining the same (Table 6.3). The increases are driven entirely by population growth in the three countries. The estimated cost for treating diabetes is also projected to increase for all three countries in 2050 due to rising prevalence, as well as inflation. An important observation under this scenario is that even with no increase in the prevalence of diabetes, both the numbers of adults with diabetes and the cost of treating diabetes will continue to increase significantly due to population growth. This observation highlights the importance of addressing population growth as an important component of managing the prevalence of diabetes and NCDs, particularly in countries that are projected to have rapid population growth between 2016 and 2050.

In scenario 3 (diabetes prevalence increases), the estimated adult population with diabetes and the cost of treatment are projected to increase markedly in all three countries. In the context of the current NCDs epidemic, this is the more likely scenario of the three to occur if countries are not able to halt or reverse the NCDs epidemic. The pressure on government's health expenditure is also expected to increase significantly. For example, the cost for treating diabetes in Solomon Islands and Nauru was estimated at 20 per cent of the total annual healthcare expenditure in both countries in 2011 (Win Tin *et al*. 2015). Based on these estimates, under this scenario, the likely total healthcare expenditure for Solomon Islands and Nauru in 2050 is projected be around US$300 million and US$10 million, respectively.

Figure 6.10 Estimated cost of treating diabetes to 2050



Source: Author's calculations

Indeed, in a recent study, the World Bank (2016) found that the economic burden of NCDs will increase with time, especially as incomes rise.

The World Bank projected that the 2030 economic burden of NCDs for PNG, Vanuatu, Tonga, Fiji and Tuvalu will be significantly higher than the middle-income average burden. For Kiribati, Samoa, and Solomon Islands, the economic burden of NCDs is expected to be close to the middle-income average burden in 2030. If no action is taken, the economic burden of NCDs for all countries is expected to escalate by 2040 (World Bank 2016).

The World Bank (2016) also reported that although cardiovascular disease is the biggest contributor to the mortality burden in the region, diabetes plays a far greater role in Pacific countries. Diabetes contributes to an average 24 per cent of the lost economic output, compared to the global average of 6 per cent, with Vanuatu

projected to suffer the highest diabetes burden, at roughly 38 per cent in 2040, even higher than the economic burden from cardiovascular disease at 31 per cent.

Furthermore, the World Bank (2016) estimated that in the absence of the four biggest NCDs, the labour force could be at least 9 to 30 per cent larger by 2040. The World Bank also demonstrated that reducing the NCDs prevalence by 6 per cent over the previous year, with a discount rate of 5 per cent, resulted in downward trends of NCDs morbidity for all countries, except Papua New Guinea, Solomon Islands, and Vanuatu, such that by 2040 the economic burden would actually be less than the 2015 burden estimates as a proportion of GDP (World Bank 2016).

The key message from the World Bank study is that it is possible to reduce the NCDs burden and bend the economic cost curve, but countries and their development partners must adopt greater urgency in tackling the NCDs crisis. The ability of the Commonwealth Pacific small states to achieve the SDGs and the Pacific Vision by 2050 will depend in part on the decisions and actions they take to tackle the NCDs crisis currently engulfing the region.

6.6 Key recommendations

The following recommendations are made in the context that there is a WHO NCDs Global Action Plan in place that lists nine voluntary global targets to be achieved by 2025, as well as the NCDs-related target of SDG3 to be achieved by 2030. Commonwealth Pacific small states have also agreed to implement the WHO Framework Convention on Tobacco Control, the WHO Global Strategy to Reduce the Harmful Use of Alcohol, the WHO Global Strategy on Diet, Physical Activity and Health, and the Pacific NCDs Roadmap. The recommendations therefore focus only on addressing the gaps identified in the previous sections and, if implemented, would help unlock the constraints to effective implementation of policy interventions. This will help the Commonwealth Pacific small states to halt and reverse the current NCDs epidemic and put them on a trajectory of social and economic growth to achieve the SDGs and the Forum Leaders' Vision for the Pacific.

6.6.1 National-level actions

Strengthen and expand the scope of national NCDs strategies. It is important to bridge major gaps in existing NCD strategies, and this can be achieved by incorporating some or all of the following areas into existing or new national NCD strategies:

- Priority upstream policy areas such as trade and legal reforms, including for instance implementing the WHO FCTC guidelines on plain packaging of tobacco products;
- Broader social and environmental determinants of health and NCDs, such as poverty, gender, population growth and climate change;
- Opportunities that could strengthen national efforts to combat NCDs, such as harnessing the energy of civil society, broader use of ICT and strategic utilisation of available regional services; and

- Accountability indicators to measure national efforts in formulating and implementing relevant policy, fiscal, legal and legislative reforms that enhance national efforts to address NCDs more effectively.

Establish a mandated health and trade committee. This committee needs to be established under a legal or political mandate with the associated institutional arrangements to ensure ongoing co-operation between the trade and health ministries. The primary role of the Committee would be to ensure that there is policy coherence aimed at protecting health while generating trade for economic development.

Ensure effective implementation of multisectoral strategies. Poor policy coherence and weak implementation have been identified as key impediments to addressing NCDs effectively in the Pacific. Therefore, it is important to enhance the effective implementation of multisectoral NCDs strategies, commencing at the design stage where all implementing partners in all sectors must be equally involved, through to implementation and the monitoring and evaluation of results. The outcome of the collaborative design process should result in the identification of final outcomes that need to be achieved to reverse the NCDs epidemic, the alignment of respective sector policies to ensure that the final outcome is achieved (policy coherence), the appropriate governance and co-ordination arrangements that need to be implemented, and the respective roles, responsibilities and accountabilities of all partners and stakeholders involved.

Establish or strengthen core national capacity in a range of disciplines. Effective implementation of the priority actions articulated in the WHO NCDs Global Action Plan and the Pacific NCDs Roadmap requires expertise and capacity across a range of disciplines, including but not limited to, expertise in public health law, health economics and policy, trade law and policy, commerce law and policy, fiscal policy and regulations, and WTO rules and regulations. Building such cross-cutting national capability will enable countries to undertake necessary policy and legal reforms that can facilitate implementation of key NCDs interventions, engage effectively with complex trade negotiating processes, and more effectively counteract the power of global marketing by transnational companies that drives the trade of products that increase NCDs risk factors.

Address rapid population growth. For countries whose populations are projected to grow rapidly, particularly Solomon Islands (World Bank 2016), Vanuatu, Papua New Guinea and Kiribati, it is recommended that effective polices are implemented to manage population growth. Rapid population growth increases the total pool of people in all age groups that are exposed to NCD risk factors, and could potentially increase the pool of people above 60 years of age who are more prone to NCDs. Managing population growth will also bring dividends in addressing poverty and unplanned urbanisation.

Accord stronger focus to women's health. While NCDs affect both women and men, there is a strong case for Pacific countries to acknowledge the importance of women's health to development. While males have a higher prevalence of cardiovascular diseases, more women tend to die from it, highlighting the importance of cardiovascular

diseases in women. The combination of obesity, diabetes and physical inactivity increases the risk of women suffering from cardiovascular diseases and other NCD-related complications, such as diabetes-related blindness, amputations and kidney dysfunction. Therefore, it is important to step up efforts to put in place clear policy interventions aimed at improving the health of women by specifically targeting salt reduction, smoking and alcohol consumption, physical inactivity and obesity.

Acknowledge and engage adolescents and youth as assets in the fight against NCDs. Considering that about 70 per cent of all premature deaths from NCDs in adults are the result of behaviours begun during adolescence and youth, it is recommended that countries consider implementing a twin strategy aimed at empowering, mainstreaming and resourcing adolescents and youths as partners in the fight against NCDs; and invest in educational programmes that target and are implemented by adolescents and youths, with support from the respective multisectoral NCDs mechanisms.

Encourage well-designed climate change mitigation strategies for win-win outcomes. Climate change programmes can be designed to also contribute to reducing the prevalence of NCDs, such as renewable energy strategies and programmes, or the promotion of low-emission vehicles that can contribute to reducing greenhouse gas emissions and improving air quality and, in turn, improving respiratory and cardiovascular health.

Improved urban design of towns and cities. Modern urban planning and design, by incorporating cycling paths, extended walkways and exercise parks, can encourage people to become more physically active, contributing to weight reduction, improved physical health, and improved respiratory and cardiovascular health.

Embrace ICTs in combating NCDs. ICTs have tremendous potential to increase service outreach and delivery of health promotion and healthcare services to people with NCDs in rural and remote communities. ICTs enable online communication about medical issues and diagnosis of diseases and their management by linking health practitioners who are separated geographically. ICTs can also facilitate dissemination of public health information about major public health threats.

Quantify the unmet NCDs funding needs at the national level. There is currently general agreement for the establishment of a Pacific NCDs financing mechanism, with an initial target to raise US$100 million by December 2018. To this end, it is recommended that countries quantify the actual level of their unmet financing gap for NCDs, and also identify how much of the financing gap, if provided, should be channelled through bilateral, regional and/or multilateral means.

6.6.2 Regional-level actions

Quantify the unmet NCDs funding needs at the regional level. Some interventions on NCDs are best provided regionally. To this end, it is recommended that regional actors that are helping countries to combat NCDs also need to quantify their unmet financing needs to support countries effectively. The total unmet financing needs at the national and regional levels could form the basis of the total funding envelope

needed to tackle NCDs in Pacific island countries and territories, which could provide the basis for the total amount of funds that could be mobilised through a Pacific or global NCDs financing mechanism.

Support national efforts to achieve the 'Tobacco Free Pacific by 2025' target. To help Pacific countries and territories to measure progress against the 2025 tobacco-free Pacific target, it is recommended that the WHO and SPC work closely with Pacific Heads of Health to agree on a few key milestones and indicators to guide countries in their efforts towards achieving the 2025 target for consideration by Pacific Health Ministers at their next meeting in 2017.

Strengthen and expand the scope of the Pacific NCDs Network. The Pacific NCDs Network should be further strengthened and expanded to provide a 'virtual' secretariat for enhancing south-south co-operation between the various national multisectoral NCDs committees in the various countries. As each country strengthens its co-ordination and governance mechanisms, there is value to be gained through effective sharing of information and lessons between the respective national co-ordinating mechanisms through enhanced south-south co-operation. The Pacific NCDs Network is best placed to assume this 'virtual' co-ordinating role to facilitate and strengthen south-south co-operation between the different national co-ordinating mechanisms. The expanded scope of the Pacific NCDs network can also support the important work provided by the members of the Quintilateral group, UNDP and other UN Agencies by contributing to the pool of regionally available technical capacity to support Pacific countries in implementing their NCDs strategies.

Establish a Pacific NCDs Civil Society Alliance. It is recommended that national and regional civil society organisations, with a focus or interest in health and/or NCDs issues, consider forming a regional alliance or network to combat NCDs. While civil society organisations are engaged at the national level as members of the various multisectoral mechanisms, a dedicated regional civil society mechanism is missing. Similar to the Global NCDs Alliance and Healthy Caribbean Coalition, a dedicated regional Pacific NCDs Alliance can advocate for people living with NCDs, help drive the agenda to reduce the behavioural NCDs risk factors, and hold governments and development partners accountable to regional and national NCDs strategies.

6.6.3 International-level action

Establish a dedicated Global Financing Mechanism for NCDs. Over the past decade, NCDs have been the world's single largest killer, responsible for more deaths than all other causes combined. Therefore, as a matter of urgency it is recommended that the global community establish a dedicated global financing mechanism for NCDs, similar to the Global Fund to Fight Aids, Tuberculosis and Malaria (GFATM) and Green Climate Fund. The GFATM was instrumental in curbing HIV/AIDS, tuberculosis and malaria, while the Green Climate Fund is expected to help countries in adaptation and mitigation practices to counter climate change. Similarly, a Global Fund for NCDs can help combat NCDs at the global level. Such a facility, if established, can supplement regional and national financial mechanisms, including the Pacific NCDs financing mechanism.

Notes

1 This chapter benefited from valuable comments from the Secretariat of the Pacific Community, UNDP (Ferdinand J. Strobel), WHO and the Commonwealth Secretariat (Resina Katafono, Stephen Dorey, Denny Lewis-Bynoe and Motselisi Matsela).
2 The Pacific Islands Forum is made up of Commonwealth Pacific small states plus Cook Islands, Federated States of Micronesia, Niue, Republic of the Marshall Islands and Palau.
3 'Our Pacific Vision is for a region of peace, harmony, security, social inclusion, and prosperity, so that all Pacific people can lead free, healthy, and productive lives'.
4 Ischaemic heart diseases are also known as coronary heart disease characterised by reduction of blood flow to the heart and can cause angina, heart attack and heart failure (NHS, UK, 2016).
5 Dr Colin Tukuitonga, Director General Secretariat of the Pacific Community (SPC) remarks at the 2016 Pacific NCDs Summit. Available at: http://www.spc.int/en/speeches/2532--pacific-community-remarks-by-director-general-dr-colin-tukuitonga-at-the-opening-ceremony-of-the-pacific-ncd-summit.html
6 Body Mass Index equal to or greater than 25.
7 Body Mass Index equal to or greater than 30.
8 Physical inactivity in adults is defined as less than 150 minutes of moderate-intensity physical activity per week or less than 75 minutes of vigorous-intensity physical activity per week. Physical inactivity in children / adolescents (5–17 years) is defined as less than 60 minutes of moderate-intensity physical activity per day, available at: http://apps.who.int/iris/bitstream/10665/44399/1/9789241599979_eng.pdf.
9 Dr Anders Dejgaard, Managing Director of the World Diabetes Foundation, statement at the 2016 Pacific NCDs Summit (WDF 2016), Available at: http://www.worlddiabetesfoundation.org/news/tonga-call-ncd-action-echoes-across-pacific.
10 US$362 is the equivalent USD value in 2015 of the original 2012 figure US$347, converted using a web-based cost converter version 1.5 (CCEMG – EPPI-Centre Cost Converter version.1.5, 2016), which converts costs for years and currency to align costs to the same currency in 2015 for comparability.
11 Also known as the SAMOA Pathway (see United Nations, 2014a).
12 United Nations Pacific Interagency Task Force on Non-communicable Disease Prevention and Control, available at: http://www.sids2014.org/index.php?page=view&type=1006&nr=2736&menu=1507)
13 Pacific NCDs Partnership, available at: http://www.sids2014.org/index.php?page=view&type=1006&nr=2759&menu=1507
14 Current members of the Pacific NCDs Partnership / Pacific NCDs network include Pacific Islands Forum Leaders, Pacific Islands Permanent Missions at the UN, Pacific Ministers of Health, Pacific Island Countries and Territories, Pacific Islands Forum Secretariat, Australian Aid programme, New Zealand Aid programme, US Aid programme, The World Bank, UNDP, Pacific Island Health Officers' Association, NCDs Alliance, WHO and SPC.
15 Pacific NCDs Network, available at: http://www.pacificncdnetwork.org/
16 MANA available at http://www.pacificncdnetwork.org/pacific-mana.html
17 Helen Clark, UNDP Administrator, Keynote Address at Pacific NCDs Summit, 2016. Available at; http://www.undp.org/content/undp/en/home/presscenter/speeches/2016/06/20/helen-clark-keynote-address-non-communicable-diseases-a-sustainable-development-priority-for-pacific-island-countries-.html
18 New NCD strategies for Fiji, Nauru, Tonga and Vanuatu
19 Helen Clark, UNDP Administrator, Keynote Address at Pacific NCDs Summit, 2016.
20 Dr Paula Vivili, Director of Public Health, SPC (phone consultation – 5 October 2016)
21 World Health Organization, 2003, WHO framework convention on tobacco control. Geneva (CH): World Health Organization; 2003 available at: http://apps.who.int/iris/bitstream/10665/42811/1/9241591013.pdf
22 Fiji, Ministry of Economy, 2016 – Supplement to the 2016–2017 Budget
23 Samoa, Ministry of Health, 2014

24 Known as PACER Plus, in force since 2002, it is a 'framework agreement' for trade and economic integration between Pacific Island Countries Trade Agreement (PICTA) members and Australia and New Zealand. PACER Plus is still being negotiated between the Pacific island countries and Australia and New Zealand. PICTA is a regional free trade agreement between members of the Pacific Islands Forum countries (excluding Australia and New Zealand) that commits the member countries to phasing out barriers to trade, including tariffs and non-tariff barriers.
25 Currently being negotiated between the European Union and the African, Caribbean and Pacific Group of States.
26 This is a trade agreement among 12 Pacific Rim countries - Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United States, and Vietnam (not including China). It was signed on 4 February 2016 and is awaiting ratification to enter into force. It aims to 'promote economic growth; support the creation and retention of jobs; enhance innovation, productivity and competitiveness; raise living standards; reduce poverty in the signatories' countries; and promote transparency, good governance, and enhanced labour and environmental protections'. It contains measures to lower both non-tariff and tariff barriers to trade and establish an investor-state dispute settlement mechanism.
27 Helen Clark, UNDP Administrator, Key Note Address at Pacific NCDs Summit, 2016
28 An informal group of partners comprising WHO, SPC, the World Bank, Australia and New Zealand.
29 Bermuda (2005), Barbados (2007), Dominica (2008), Belize (2009), Grenada (2010), Jamaica (2011), Trinidad & Tobago (2011), Bahamas (2013), St Lucia (2013), British Virgin Islands (2013), St Kitts & Nevis (2014) and Guyana (2014).
30 Hon. Nandi Glassie, Cook Islands Minister of Health, Justice and Parliamentary Services, statement at the 2016 Pacific NCDs Summit, available at http://www.mic.gov.to/news-today/press-releases/6114-exploring-pacific-funding-mechanism-option-to-help-turn-the-tide-on-ncds
31 Pacific NCDs Summit 2016 (Tonga), Outcome statement, SPC, 2016c
32 MANA, available at http://www.pacificncdnetwork.org/pacific-mana.html
33 MANA, available at http://www.pacificncdnetwork.org/pacific-mana.html
34 National NCD strategies – Fiji, Nauru, Tonga, Vanuatu
35 The Global NCDs Alliance, established in 2009, is a unique civil society network uniting 2,000 civil society organisations in more than 170 countries with a mission to combat the NCDs epidemic. See https://ncdalliance.org/who-we-are
36 The Healthy Caribbean Coalition is a regional civil society alliance established in 2008, comprising more than 40 Caribbean-based health non-government organisations to combat chronic diseases and work to advocate for and support NCDs risk factor reduction in the Caribbean region (Health Caribbean Coalition 2016).
37 The 2011 declaration of the Pacific NCDs crises (WHO & SPC 2011a; PIFS 2011), the 2013 adoption of the 'Tobacco free Pacific by 2025' target (WHO & SPC 2013), the 2014 adoption of the Pacific NCDs Roadmap (PIFS, 2014b), and the support for a Pacific Financing Mechanism (Outcome Statement, Pacific NCDs Summit 2016, SPC 2016c).
38 World Bank, 2012, for Vanuatu and Win Tin et al., 2015, for Solomon Islands and Nauru

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Appendix 6.1

The potential annual costs of treating adult (age 20 years and over) diabetes in Vanuatu, Solomon Islands and Nauru for 2050 for the three different scenarios (declining trend, no change, increasing trend) were based on the underlying calculations:

- The 'estimated adult population of 20 years and over' was sourced from SPC's revised '2016 Pacific island countries population projections' (SPC, 2016b). Fifty per cent of the population for the 15–24 age bracket was assumed as comprising the population of people aged between 20–24 years. This population was added to the populations in the 25–59 years age bracket and the 60 years plus age bracket to obtain the total '20 years and over population' for all three countries.
- The prevalence rates published by WHO in its 2014 Global Status Report on NCDs (WHO 2014b) were used as the '*starting*' 2015 prevalence rates for the three countries. While these rates are not the 2015 rates, they are the closest rates to 2015 at the time of writing and they are used purely to demonstrate the probable trends in each of the three scenarios in each country.
- The estimated 'adult population with diabetes' in each country was obtained by applying the respective prevalence rates for the three countries as percentages of the estimated total adult population.
- The 'cost per person year' for each country was standardised in US dollars. The costs were converted to '2015 United States dollar (US$) values' from 2011 Australian dollar (AUD) values for Solomon Islands and Nauru, and 2012 US$ values for Vanuatu using a web-based cost converter version 1.5 (CCEMG – EPPI-Centre Cost Converter version.1.5, 2016), which converts costs for years and currency to align all three costs to the same currency (US$) in 2015 for comparability.

The calculations are provided in the tables below:

Table A6.1 Estimated cost for treating diabetes in Vanuatu, US$ million

		2015	2020	2025	2030	2035	2040	2045	2050
	SCENARIO 1 Decreasing diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	148,075	172,360	198,395	227,695	258,815	292,265	326,225	360,525
B	Diabetes prevalence rate (%) – projected at 1.5% reduction every 5 years from 2015 (using the WHO estimated prevalence of 19% in the 2014 Global Status Report on NCDs as the starting value for 2015)	19	17.5	16	14.5	13	11.5	10	8.5
C	Estimated adult population with diabetes: C=(A/100 × B)	28,134	30,163	31,743	33,016	33,646	33,610	32,623	30,645
D	Cost per person year in US dollars, adjusted to 2015 value and escalated at 5% inflation increase every 5 years from 2015	362	380	399	419	440	462	485	509
E	Estimated total Annual national cost (in US$): E=[C × D]	10,184,599	11,464,956	12,668,870	13,835,599	14,804,664	15,528,507	15,825,652	15,609,463
	SCENARIO 2 No change in diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	148,075	172,360	198,395	227,695	258,815	292,265	326,225	360,525

(*Continued*)

Table A6.1 Estimated cost for treating diabetes in Vanuatu, US$ million (*Continued*)

		2015	2020	2025	2030	2035	2040	2045	2050
B	Diabetes prevalence rate (%) – projected at no change from 2015 (using the WHO estimated prevalence of 19% in the 2014 Global Status Report on NCDs as the value for 2015)	19	19	19	19	19	19	19	19
C	Estimated adult population with diabetes: C=(A/100 × B)	28,134	32,748	37,695	43,262	49,175	55,530	61,983	68,500
D	Cost per person year in US dollars, adjusted to 2015 value and escalated at 5% inflation increase every 5 years from 2015	362	380	399	419	440	462	485	509
E	Estimated total Annual national cost (in US$): E=[C × D]	10,184,599	12,447,667	15,044,283	18,129,405	21,637,586	25,655,795	30,068,738	34,891,742
	SCENARIO 3 Increasing diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	148,075	172,360	198,395	227,695	258,815	292,265	326,225	360,525
B	Diabetes prevalence rate (%) – projected at 1.5% increase every 5 years from 2015 (using the WHO estimated prevalence of 19% in the 2014 Global Status Report on NCDs as the starting value for 2015)	19	20.5	22	23.5	25	26.5	28	29.5

Table A6.1 Estimated cost for treating diabetes in Vanuatu, US$ million (*Continued*)

		2015	2020	2025	2030	2035	2040	2045	2050
C	Estimated adult population with diabetes: C=(A/100 × B)	28,134	35,334	43,647	53,508	64,704	77,450	91,343	106,355
D	Cost per person year in US dollars, adjusted to 2015 value and escalated at 5% inflation increase every 5 years from 2015	362	380	399	419	440	462	485	509
E	Estimated total annual national cost (in US$): E=[C × D]	10,184,599	13,430,377	17,419,696	22,423,212	28,470,508	35,783,082	44,311,825	54,174,020

Table A6.2 Estimated cost for treating diabetes in Solomon Islands, US$ million

		2015	2020	2025	2030	2035	2040	2045	2050
	SCENARIO 1								
	Decreasing diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	315,315	362,965	418,925	483,375	552,200	625,850	705,775	792,870
B	**Diabetes prevalence rate (%) – projected at 1.5% reduction every 5 years from 2015** (using the WHO estimated prevalence of 16.8% in the 2014 Global Status Report on NCDs as the starting value for 2015)	16.8	15.3	13.8	12.3	10.8	9.3	7.8	6.3
C	Estimated adult population with diabetes: **C=(A/100 × B)**	52,973	55,534	57,812	59,455	59,638	58,204	55,050	49,951
D	**Cost per person year in US dollars, adjusted to 2015 value** and escalated at 5% inflation increase every 5 years from 2015	198	208	218	229	241	253	265	279
E	Estimated total Annual national cost (in US$): **E=[C × D]**	10,488,638	11,545,445	12,619,994	13,627,694	14,352,995	14,708,382	14,607,028	13,916,590
	SCENARIO 2								
	No change in diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	315,315	362,965	418,925	483,375	552,200	625,850	705,775	792,870
B	**Diabetes Prevalence rate (%) – projected at no change from 2015** (using the WHO estimated prevalence of 16.8% in the 2014 Global Status Report on NCDs as the value for 2015)	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8

Table A6.2 Estimated cost for treating diabetes in Solomon Islands, US$ million (*Continued*)

		2015	2020	2025	2030	2035	2040	2045	2050
C	Estimated adult population with diabetes: **C=(A/100 × B)**	52,973	60,978	70,379	81,207	92,770	105,143	118,570	133,202
D	**Cost per person year in US dollars, adjusted to 2015 value** and escalated at 5% inflation increase every 5 years from 2015.	198	208	218	229	241	253	265	279
E	Estimated total Annual national cost (in US$): **E=[C × D]**	10,488,638	12,677,351	15,363,471	18,613,436	22,326,882	26,569,980	31,461,291	37,110,905
	SCENARIO 3 Increasing diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	315,315	362,965	418,925	483,375	552,200	625,850	705,775	792,870
B	**Diabetes prevalence rate (%) – projected at 1.5% increase every 5 years from 2015,** (using the WHO estimated prevalence of 16.8% in the 2014 Global Status Report on NCDs as the value for 2015)	16.8	18.3	19.8	21.3	22.8	24.3	25.8	27.3
C	Estimated adult population with diabetes: **C=(A/100 × B)**	52,973	66,423	82,947	102,959	125,902	152,082	182,090	216,454
D	**Cost per person year in US dollars, adjusted to 2015 value** and escalated at 5% inflation increase every 5 years from 2015.	198	208	218	229	241	253	265	279
E	**Estimated total annual national cost** (in US$): **E=[C × D]**	10,488,638	13,809,258	18,106,948	23,599,178	30,300,768	38,431,578	48,315,554	60,305,221

(*Continued*)

Table A6.3 Estimated cost for treating diabetes in Nauru, US$ million

		2015	2020	2025	2030	2035	2040	2045	2050
	SCENARIO 1								
	Decreasing diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	5,445	5,680	6,080	6,445	6,910	7,275	7,675	8,145
B	**Diabetes prevalence rate (%) – projected at 1.5% reduction every 5 years from 2015** (using the WHO estimated prevalence of 24.5% in the 2014 Global Status Report on NCDs as the starting value for 2015)	24.5	23	21.5	20	18.5	17	15.5	14
C	Estimated adult population with diabetes**: C=(A/100 × B)**	1,334	1,306	1,307	1,289	1,278	1,237	1,190	1,140
D	**Cost per person year in US dollars, adjusted to 2015 value** and escalated at 5% inflation increase every 5 years from 2015	525	551	579	608	638	670	704	739
E	Estimated total Annual national cost (in US$): **E=[C × D]**	700,363	720,153	756,624	783,394	815,767	828,682	836,961	842,371
	SCENARIO 2								
	No change in diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	5,445	5,680	6,080	6,445	6,910	7,275	7,675	8,145
B	**Diabetes prevalence rate (%) – projected at no change from 2015** (using the WHO estimated prevalence of 24.5% in the 2014 Global Status Report on NCDs as the value for 2015)	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5

Table A6.3 Estimated cost for treating diabetes in Nauru, US$ million (*Continued*)

		2015	2020	2025	2030	2035	2040	2045	2050
C	Estimated adult population with diabetes: **C=(A/100 × B)**	1,334	1,392	1,490	1,579	1,693	1,782	1,880	1,996
D	**Cost per person year in US dollars, adjusted to 2015 value** and escalated at 5% inflation increase every 5 years from 2015	525	551	579	608	638	670	704	739
E	Estimated total Annual national cost (in US$): **E=[C × D]**	700,363	767,120	862,199	959,657	1,080,340	1,194,276	1,322,938	1,474,150
	SCENARIO 3 Increasing diabetes prevalence								
A	Estimated total adult population (Age 20 years and over)	5,445	5,680	6,080	6,445	6,910	7,275	7,675	8,145
B	**Diabetes prevalence rate (%) – projected at 1.5% increase every 5 years from 2015** (using the WHO estimated prevalence of 24.5% in the 2014 Global Status Report on NCDs as the value for 2015)	24.5	26	27.5	29	30.5	32	33.5	35
C	Estimated adult population with diabetes: **C=(A/100 × B)**	1,334	1,477	1,672	1,869	2,108	2,328	2,571	2,851
D	**Cost per person year in US dollars, adjusted to 2015 value** and escalated at 5% inflation increase every 5 years from 2015	525	551	579	608	638	670	704	739
E	**Estimated total annual national cost** (in US$): **E=[C × D]**	700,363	814,086	967,775	1,135,921	1,344,914	1,559,871	1,808,916	2,105,928

(*Continued*)

The weaknesses in the methodology used for these calculations include:

- The 'cost per person year' data from the two studies used different methodologies, thus potentially affecting the baseline cost-data used for the calculations.
- The adult diabetes prevalence published in WHO, 2014b are not for 2015 and could therefore be lower or higher than the actual 2015 prevalence for the three countries.
- The estimated population between 20 and 24 years of age at 50 per cent of the 15–24 age group population assumes an equal 50 per cent split between those aged 15 to 19 years and 20 to 24 years.

Chapter 7

Connectivity and Information and Communications Technology

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7.1 Introduction[1]

In the last few decades, information and communications technology (ICT) has transformed business management, government operations and indeed social interactions and the lifestyles of individuals. Wave after wave of ICT innovations have spread to every corner of the planet. The level of diffusion and adoption of ICT has, however, varied from country to country depending on the existence of an enabling environment and resources in place to nurture and accelerate the ICT transformation. While the last decades of the previous millennium saw the diffusion and growth of ICTs in developed countries, the opening decades of the present millennium are witnessing exponential ICT penetration rates in the developing countries of Asia, the Pacific, Africa and Latin America.

The role of ICT as an enabler for accelerated economic development and social transformation is established and universally recognised. ICT tools and systems enable the fast and reliable flow of information between individuals and systems. ICT also enables the efficient and rapid processing of data to enable significant improvements in individual and organisational performance and outputs, as well as improving the efficient use of resources. Individuals, business organisations, industrial enterprises and governments are adopting ICTs the world over, continually upgrading their ICT tools and technical systems as newer and better technologies emerge.

The Commonwealth Pacific small states (Fiji, Kiribati, Nauru, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu), have also seen the diffusion of ICTs within their societies. However, ICT diffusion and penetration in these small states are affected by their unique geographical, demographic, social and economic challenges, marked by low populations spread over a large geographical area, a low level of skills, and high vulnerability to natural disasters and climate change. The islands' sparse population, dispersed and spread across long nautical miles of the Pacific Ocean, poses connectivity challenges of an extraordinary magnitude. Similarly, small market sizes in most states discourage private sector investment, as do the challenges posed by their high susceptibility to natural disasters and climate change, as well as the lack of skills and resources to adopt and localise ICTs.

Nevertheless, strategic intervention by Pacific Leaders and policy-makers at the national and regional levels, with support from the international community, have resulted in higher than average ICT penetration rates and expansion of ICT infrastructure and applications. However, many challenges and problems persist.

ICT connectivity is significantly underdeveloped, leaving out a large section of the Pacific population. Addressing these gaps will be critical to take optimal advantage of the opportunities that ICTs can open up for these countries, particularly in their efforts to achieve sustainable development into 2050. Active, systematic and long-term strategic intervention is called for to overcome the gaps and weaknesses that currently exist and to prepare these countries to dynamically absorb technologies as they develop and advance towards 2050.

This chapter critically evaluates the key ICT challenges that the nine Commonwealth Pacific small states faces, as well as the regional and national responses to these challenges. The chapter also draws out some of the key gaps and opportunities in the interventions in place, highlighting a few crucial recommendations that can be considered to prepare the region for a technology-driven knowledge-based society in 2050.

7.2 Context

There has been significant progress in the various strategic areas of ICT development (connectivity and infrastructure, policy and regulations, systems and applications) both at the level of individual countries and regionally. The growth trends in ICT penetration are persisting, with many country-level projects and regional initiatives underway, as well as an expanding involvement of international private sector entities. However, there are major challenges, including expanding and upgrading ICT connectivity in a region with a widely dispersed population; high cost of telecom and internet services; fragmented and suboptimal ICT applications, laws and regulations; low level of ICT skills, innovation and diffusion; and organisational and institutional weaknesses.

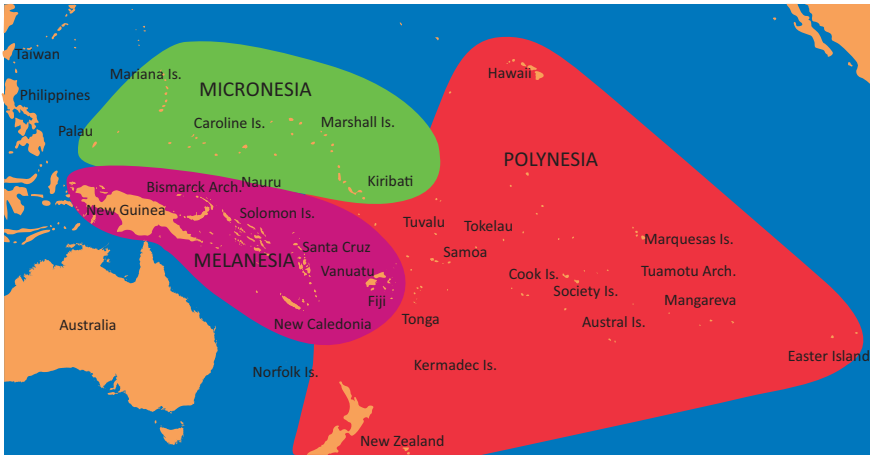
7.2.1 Connectivity and ICT infrastructure

ICTs deal with information either in the static form, such as databases and information repositories, or in the IT systems where its transformation and processing takes place, or over the computer networks and telecommunication lines while it is in transit. In all these states of information, management infrastructure must be provided for the needed processes to take place. Out of the mix of ICT infrastructure components that must be provided for optimal ICT management, perhaps the most basic and fundamental is the ICT connectivity and telecom infrastructure. Connectivity and ICT infrastructure provides accessibility to individuals and systems to receive and send voice and data messages, obtain learning and entertainment content, obtain government services and undertake many other information-based services.

The Commonwealth Pacific small states are part of Oceania, running 9,000 km east to west and about 5,000 km north to south and comprising some 25 countries and territories. The Oceania region includes the more advanced Commonwealth countries of Australia and New Zealand (Figure 7.1).

Satellite has been the main means for providing telecom connectivity for the large number of widely dispersed islands in the Pacific (Table 7.1). The region is mainly served by the Intelsat series of three satellites using C-band[2] to cover the region. The dependence on a single constellation of satellites has been a matter of concern. However,

Figure 7.1 Micronesia, Melanesia and Polynesia zones of Oceania



Source: Pramanik (2014)

this situation is changing, with the arrival of other satellite telecom companies into the region. It is expected that by 2017, seven satellite operators (ABS satellite, Eutelsat, Intersat, JSAT, Kacific, SES and 03B) will provide improved coverage over the region, using better technologies and higher bandwidth. New satellite operators like O3B (2014) and Kacific (2017) are entering the Pacific with affordable broadband satellite solutions. In a co-operation programme with the International Telecommunication Union (ITU), it is expected that 11 island countries will benefit from the service of Kacific and up to 55 rural/remote community e-centres will be established by 2017 to enable applications in the health, education and agriculture sectors.

Wireless telecommunication, originally used for two-way radio communication and broadcasting, is now an important part of the connectivity scenario of the region.

Table 7.1 Satellite and submarine connectivity

Country	Connectivity Option	
	International	Domestic
Fiji	✸ ✹	✹
Kiribati	✹	✹
Nauru	✹	-
Papua New Guinea	✸ ✹	✹
Samoa	✸ ✹	✹
Solomon Is	✹	✹
Tonga	✸	✹
Tuvalu	✹	✹
Vanuatu	✸	✹

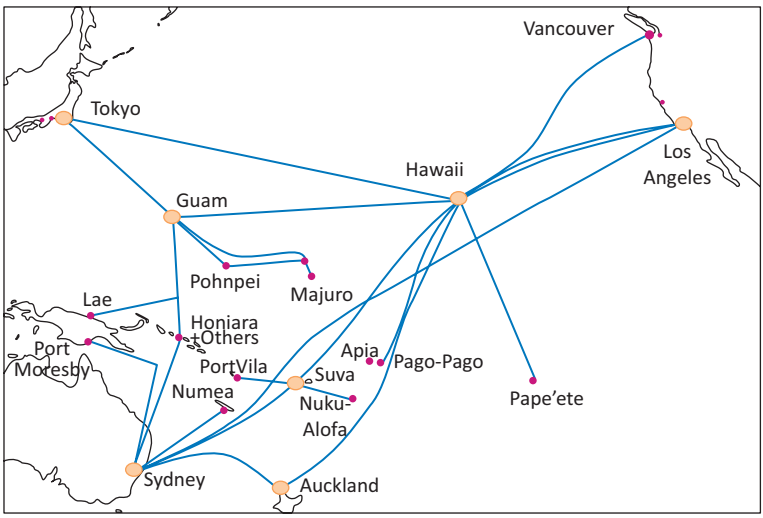
Note: ✸ Submarine cable ✹ Satellite
Source: CROP ICT Working Group Secretariat, 2014

Mobile phones, microwave signal trunking and wireless networking, such as WiMax,[3] are playing an important part to provide last-mile connectivity.

Submarine cable-based connectivity has developed in recent years to supplement terrestrial and satellite-based connectivity infrastructure and to provide higher bandwidth data and voice services. However, the submarine cable connectivity does not fully cover the region at present (Table 7.1). The main trunk lines provide fibre optic connectivity between the US and Australia and New Zealand via Hawaii on one hand and between the US and Japan via Guam on the other (Figure 7.2). The submarine cable connectivity to the Commonwealth small states has been secured through tapping into these two main trunk lines. Five of the nine Commonwealth small states (Fiji, Papua New Guinea, Samoa, Tonga, and Vanuatu) are connected to the existing submarine cable network. The limited traffic to physically distant and sparsely populated islands, particularly Kiribati, Nauru and Tuvalu, cannot make a business case for investment in hugely costly submarine cable infrastructure. However, there is growing awareness that such islands should be connected anyway. Recognising the importance of submarine optical cable network as the basic infrastructure for high-speed broadband connectivity, the governments in the region and their development partners have undertaken several initiatives to expand the submarine network in the region.

Samoa will soon be able to receive high bandwidth and faster internet following the launching of the Samoa Connectivity Project in October 2015. The estimated US$50 million project involves the laying of some 1,300 km of submarine cable to connect Samoa to the Southern Cross Pacific Network's hub in Fiji. This project is being financed under the Pacific Connectivity programme of the World Bank, in partnership with the Australian Government, Asian Development Bank and Samoa Submarine Cable Company. The main objective of the World Bank programme is to undertake a series of projects in partnership with other development agencies to help Pacific island

Figure 7.2 Broad layout of the submarine cable network in the Pacific



Source: Pramanik (2014)

countries achieve more affordable information and communication technologies and reduce their isolation. The Samoa project follows the laying of an 827 km fibre optic cable between Tonga and Fiji, which was completed in August 2013. Plans to connect other countries, such as Kiribati and Solomon Islands, are being developed and over the next few years all Commonwealth Pacific small states should be connected. In addition to the initiatives of the governments and development partners, there are moves by private companies to get involved in the expansion of the submarine cable network in the Pacific region. In early 2016, Huawei Marine Networks, a joint venture between Huawei and Global Marine Systems, expressed interest in the development of fibre optic based connectivity in the Pacific, as part of Huawei's broader strategy to expand its involvement in the region. The Hawaiki Submarine Cable proposal to lay a high capacity cable between Sydney and the United States West coast, stopping in Auckland, Fiji and Hawaii, is another private initiative expected to be ready for service in 2018.

Therefore, while ICT connectivity infrastructure for mobile services and broadband internet seems to be expanding, wide disparities exist within the region and serious gaps exist between the demand for ICT connectivity and telecom services, and what is being currently supplied. Large areas of the region are either not connected at all or receive low-quality narrowband telecom services. The World Bank estimates that the total demand for bandwidth in the region is 44Gbps and only 18 per cent is currently being supplied, with the demand for bandwidth set to increase as the ICT application and diffusion expands in the region.

In addition, although fibre optic submarine cables provide the best means of reliable broadband connectivity, only five of the Commonwealth Pacific small states are connected to the submarine cable network. A recent study (CROP ICTWGS 2014) found that despite the arrival of undersea cable on many islands, ICT penetration has not really improved over the last decade. However, anecdotally, since the arrival of submarine cables in Vanuatu, Samoa and Tonga, the cost of the internet has reduced significantly and penetration has risen just as quickly. The expensive maintenance of the cable and the cost of distributing its connectivity to most islanders remains a challenge. In many places, undersea cable initially provides affordable, quality bandwidth within 5 km of city centres, but as rollout of 3G and 4G steadily increases, more people are accessing broadband. However, residents living beyond this coverage are often able to access only expensive and slow packages.

Furthermore, the high cost of laying and maintaining submarine cables, combined with the small market size in outlying islands, does not make a business case for private sector investment. Therefore, development partner support, as well as innovative business and investment models, will be necessary to expand the submarine cable infrastructure for the Commonwealth Pacific small states.

7.2.2 ICT penetration

Fixed line and mobile connectivity

In terms of fixed line subscriptions, in most Commonwealth Pacific small states there has been a static or declining trend (Table 7.2). The average fixed line subscriptions

Table 7.2 Fixed line subscriptions per 100 inhabitants

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fiji	13.7	13.9	14.6	15.3	16.1	15.1	15.0	10.1	8.0	8.5
Kiribati	4.6	4.4	4.3	4.2	8.6	8.6	8.5	8.9	8.8	8.8
Nauru	17.8	17.8	17.8	17.9	17.9	18.9	0.0	0.0	0.0	0.0
PNG	1.1	1.0	0.9	1.0	1.4	1.8	1.9	1.9	1.9	1.9
Samoa	10.8					4.3		4.4	4.4	6.1
Solomon Is	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.4	1.3
Tonga	13.6	18.2	20.6	24.8	29.9	29.8	28.7	28.6	29.4	11.3
Tuvalu	9.2	11.3	13.3	10.2	8.2	12.2	14.7	14.7	14.7	15.2
Vanuatu	3.3	3.5	4.0	4.6	3.1	3.0	2.4	2.0	2.2	2.2
Average*	2.7	2.6	2.7	3.5	3.3	3.5	3.5	3.1	2.9	2.8

Note: *Weighted by population
Source: ITU 2015

per 100 inhabitants either declined or remained static between 2005 and 2014. Fiji recorded the sharpest decline, where fixed line subscriptions declined from 13.7 in 2005 to 8.5 in 2014.

While fixed line subscriptions have either remained static or declined, mobile connectivity has increased exponentially (Table 7.3). On average, mobile penetration for the Commonwealth Pacific small states per 100 inhabitants rose from 4.2 in 2005 to 51.9 in 2014, translating to a relatively rapid unique subscriber growth from 0.4 million in 2005 to 4.7 million in 2014. This is a compound annual growth rate of 26 per cent, well ahead of the global and developing country averages. In Fiji, the sharp decline in fixed line subscriptions was accompanied by a steep increase in mobile subscriptions, from 24.9 in 2005 to 98.8 in 2014.

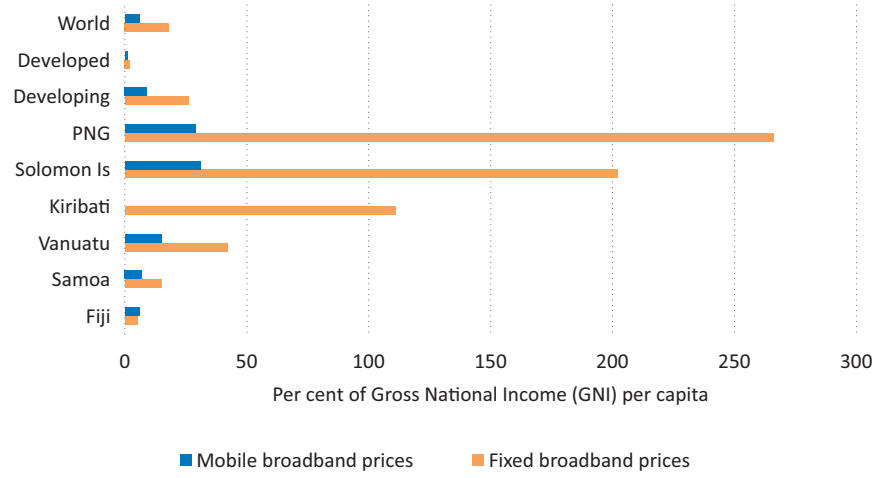
The increasing trend in mobile usage follows expanding availability of mobile phone services progressively covering larger areas of the Pacific, as well as national efforts to enhance a connectivity backbone and introduction of affordable service rates.

Table 7.3 Mobile subscriptions per 100 inhabitants

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fiji	24.9	34.4	63.5	71.1	75.1	81.1	83.8	98.2	105.6	98.8
Kiribati	0.7	0.8	0.8	1.1	10.3	10.8	13.9	15.9	16.0	17.4
Nauru						61.9	66.8	67.8	68.0	68.0
PNG	1.2	1.6	4.7	13.8	21.1	27.8	34.2	37.8	41.0	44.9
Samoa	13.3	28.1	47.2	48.0	48.0	48.4	50.0	53.1	52.5	55.5
Solomon Is	1.3	1.5	2.2	6.0	9.7	21.9	51.1	55.0	57.6	65.8
Tonga	29.6	29.6	45.5	49.0	51.2	52.2	52.6	53.4	54.6	64.3
Tuvalu	13.4	16.5	18.4	17.0	10.2	16.3	21.6	28.4	34.4	38.4
Vanuatu	6.1	7.0	11.8	16.0	57.1	71.9	56.7	59.7	50.3	60.4
Average*	4.2	5.7	11.6	19.8	27.2	34.3	40.9	45.5	48.6	51.9

Note: *Weighted by population
Source: ITU 2015

Figure 7.3 Broadband prices (2015)



Source: ITU 2015

For most of the Commonwealth Pacific small states, 2G remains the dominant mobile technology although several markets are seeing a migration to higher speed mobile broadband (3G and 4G) networks. In Fiji, for example, mobile broadband connections accounted for 33 per cent of total connections at the end of 2014, with 4G accounting for 14 per cent of the total connection base. However, some markets such as Tuvalu are yet to launch 3G or 4G networks.

Despite its growth, there is wide variability in the mobile-cellular telephone penetration across countries of the region, with Papua New Guinea at about 45 per cent and Fiji at 100 per cent. In addition, nearly half of the Commonwealth Pacific small states' population, led by PNG, are not yet users of the mobile phone service. This is likely to be for a variety of reasons. One obvious reason is that a large section of the population, particularly in PNG, lives in rural areas where the mobile phone service is not yet available. In addition, many of the states consist of archipelagos of many islands dispersed over hundreds of kilometres, often lacking in supporting infrastructure, such as electricity that is essential for telecommunication. For these reasons, Kiribati and Tuvalu have the lowest mobile subscriptions, at 17.4 and 38.4, respectively. Furthermore, in some parts of the Pacific, the cost of mobile service is so high as to be beyond the affordability of an average person in these areas, especially in the areas of largely subsistence living. For instance, in PNG and the Solomon Islands, the average cost of the mobile broadband service has been estimated to be 29 and 31 per cent of the per capita gross national income, respectively, which is three to four times higher than the average prices of these services in developing countries (Figure 7.3).

Broadband connectivity and internet use

Broadband connectivity infrastructure that enables larger and faster data flows is a basic requirement for satisfactory internet experience. With the expansion of a submarine fibre optics backbone in the Pacific in the last ten years, broadband

Table 7.4 Fixed line broadband per 100 inhabitants

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fiji	0.9	1.0	1.4	1.5	1.5	2.7	2.7	1.6	1.2	1.4
Kiribati	0.4	0.4	0.5	0.7	0.8	0.9	0.9	1.0	1.1	1.2
PNG				0.1	0.1	0.1	0.1	0.1	0.2	0.2
Nauru						9.6				
Samoa	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.6	0.7	1.1
Solomon Is	0.1	0.1	0.2	0.3	0.4	0.5	0.5	0.4	0.3	0.2
Tonga	0.6	0.6	0.8	0.7	1.0	1.1	1.2	1.4	1.6	1.7
Tuvalu	1.6	2.6	2.8	3.0	1.0	2.4	4.6	5.6	7.1	9.1
Vanuatu	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.1	1.8
Average*	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4

Note: *Weighted by population
Source: ITU 2015

internet availability in the Commonwealth Pacific small states has risen sharply. Concomitantly, the demand for internet services, largely fuelled by expanding interest in web surfing and social networking among the general population, has risen. The expansion of the supply of broadband services and increasing demand for such services has led to a sharp increase in broadband subscriptions in all Commonwealth Pacific small states (Table 7.4). On average, there was a fourfold increase in the fixed line broadband subscriptions between 2005 and 2014. However, in absolute terms, the usage of fixed line broadband in these states has been limited to only one in every 250 inhabitants, compared to one in every two inhabitants using mobile service.

As with the rest of the developing world, the internet penetration within the Commonwealth Pacific small states has increased significantly (27%), from a low of 2.5 per cent in 2005 to about 16 per cent in 2014 (Table 7.5). This sharp increase has been due to the expanding demand for the internet, entertainment and communication. It is also due to the decreasing trend in the internet service cost. The

Table 7.5 Percentage of people using internet

Country	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Fiji	8.5	9.6	10.9	13.0	17.0	20.0	28.0	33.7	37.1	41.8
Kiribati	4.0	4.5	6.0	7.0	9.0	9.1	10.0	10.8	11.5	12.3
Nauru										
PNG	1.7	1.8	1.8	1.2	1.6	1.3	2.0	3.5	6.5	9.4
Samoa	3.4	4.5	4.8	5.0	6.0	7.0	11.0	12.9	15.3	21.2
Solomon Is	0.8	1.7	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
Tonga	4.9	5.9	7.2	8.1	10.0	16.0	25.0	33.0	35.0	40.0
Tuvalu	0.0	0.0	10.0	15.0	20.0	25.0	30.0	35.0	37.0	37.0
Vanuatu	5.1	5.9	6.8	7.3	7.5	8.0	9.2	10.6	11.3	18.8
Average*	2.5	2.7	3.0	2.8	3.7	3.9	5.5	7.4	10.2	15.9

Note: *Weighted by population
Source: ITU 2015

expansion of the internet infrastructure and service quality has apparently kept pace with the expanding demand for the internet.

While internet use has been expanding, there are wide intra-regional differences. For instance, Fiji has reached an internet penetration of 42 per cent, while Papua New Guinea, the largest country of the region with a population of some 7 million, accounting for nearly three quarters of the region's total population, has reached less than 10 per cent internet penetration. In addition, the percentage of people using the internet is still low at 16 per cent. That is to say nearly 74 per cent of the Commonwealth Pacific small states' population, led by PNG, still do not use the internet.

7.2.3 Costs and affordability

The cost of domestic and international telecom services, including call rates and internet service prices, in the Commonwealth Pacific small states has consistently remained much higher than the world average. This is due to the lack of market competition and relatively high telecom service delivery costs in the region. However, between 2000 and 2015, telecom prices have fallen almost in tandem with the fall in prices in developing countries worldwide. In some of the Commonwealth Pacific small states (e.g. Fiji and Solomon Islands), with relatively larger markets and increased market competition, the price fall has been considerably sharper (Table 7.6).

To gauge the level of affordability, the prices of the telecom services, including fixed line, broadband internet and mobile, have to be compared with average incomes. The Broadband Commission has set a global affordability target price for broadband telecom service at a maximum of 5 per cent of per capita Gross National Income (GNI). Based on ITU data, the price of mobile services in the Commonwealth Pacific small states ranges from 5 per cent in Fiji to 16 per cent of GNI per capita in PNG, compared to the developing countries average of 9 per cent and global average of 6 per cent.

The fixed and mobile broadband services are even less affordable than the basic mobile services (Figure 7.3). Fixed broadband prices, as a percentage of GNI per capita, vary from 5 per cent in Fiji to 266 per cent in Papua New Guinea. This is considerably higher than the global and developing country averages of 18 and 26

Table 7.6 Indicative internet price trend (US$ per month)

Country	Internet price in 1999	Internet price in 2016	Remarks
Fiji	7,755	57 (100GB data and 10MB speed)	Telecom Fiji business internet package, 2016.
Solomon Is	4,816	128 (package rate)	Our Telekom 250 SBD 1GB for 7 days, June 2016.
PNG	3,000	190 (package rate)	HiTRON internet plan 512k/10MB June, 2016.
Samoa	1,905	167 (package rate)	Blue Sky smart home package 2Mbps 20MB, June 2016.

Source: SOPAC 1999 and internet service provider's websites.

per cent, respectively. Similarly, mobile broadband prices, as a percentage of GNI per capita, vary from 6 per cent in Fiji to 31 per cent in Solomon Islands. Although prices for mobile broadband are more affordable, prices are still above the target of 5 per cent of GNI per capita and, except for Fiji, are higher than the global and developing country averages of 6 and 9 per cent, respectively. Fiji's relatively better connectivity and economic situation provides for a better outcome with regard to telecom affordability than the other Commonwealth Pacific small states.

Therefore, although internet charges have fallen sharply during the last ten years, prices are still high enough to be beyond what many in the region can afford. Fixed and mobile broadband connectivity prices are especially high.

7.2.4 ICT applications

The application of ICT in various social, economic, environmental and governance sectors can be leveraged to overcome the unique challenges of Commonwealth Pacific small states, particularly in the areas of public governance, business, education, health, disaster management and climate change.

ICT in government (e-government)

ICT application in government or e-government has been employed the world over to bring in efficiency and effectiveness in public governance. This has been achieved through the development of efficient government processes and public services, as well as use of ICT to promote democratic government, public participation and reduced corruption. Accordingly, many Commonwealth Pacific small states have adopted strategic plans and programmes for the development of e-government.

According to the United Nations Public Administrations Network (UNPAN) E-Government Development Index (EGDI), which gauges e-government readiness and development (e-government systems, e-services and use of internet and web technology for government operations and services), Commonwealth Pacific small states perform poorly (Table 7.7). The average EGDI for Commonwealth Pacific small states is substantially lower than the world average, indicating the poor development of e-government in the region. Except for Fiji, all the other states have an EGDI that is lower than the world average. Between 2012 and 2014, the EGDI ranking of five out of the nine countries fell (Nauru, Papua New Guinea, Solomon Islands, Tuvalu and Vanuatu), while the rest improved (Fiji, Kiribati, Samoa and Tonga). Fiji and Tonga have the highest ranking of the Pacific small states.

None of the Commonwealth Pacific small states rank high on e-government due to the unique challenges small island developing states face, such as their small size and economy, isolation and high cost of providing goods, services and infrastructure – including telecommunications – associated with small populations and geographic dispersion. This poses unique challenges for governments in co-ordinating and delivering services (UNPAN 2014, 27).

The ICT sector in most countries is immature and underdeveloped. Only five countries (Fiji, Samoa, Papua New Guinea, Tonga and Vanuatu) have so far established

Table 7.7 E-government development index

Country	Level of Income	EGDI	2014 Rank	2012 Rank	Change of Rank
Fiji	Upper Middle	0.5044	85	105	↑20
Kiribati	Upper Middle	0.3201	132	149	↑17
Nauru	Upper Middle	0.2776	145	141	↓4
PNG	Lower Middle	0.1203	188	177	↓11
Samoa	Upper Middle	0.4204	111	114	↑3
Solomon Is	Lower Middle	0.2087	170	168	↓2
Tonga	Upper Middle	0.4706	98	111	↑13
Tuvalu	Upper Middle	0.3059	137	134	↓3
Vanuatu	Upper Middle	0.2571	159	135	↓24
Average		0.3206			
World Average		0.4712			

Source: UNPAN 2014

submarine fibre cable access to the global backbone for telephony and the internet. The low levels of access to broadband connectivity have hampered the development of e-government services, economic development, and social cohesion, and placed a brake on the development of technology-based services.

The 2010 Review of the Pacific Regional Digital Strategy (Network Strategies 2010) found that many ICT policies address the need for basic e-government initiatives, but many countries were still grappling with the five evolutionary steps that lead to e-government:

1. Computerising ministries and departments.
2. Establishing networks between ministries and departments.
3. Developing secure email and internet access.
4. Developing websites.
5. Developing applications providing G2B and G2C services.

The Review noted that most countries achieved steps 1, 3 and 4, but only Fiji had achieved all five. Fiji's establishment of an Information Technology and Computing Services Unit in 2000 has facilitated the growth of e-government capacities virtually across all ministries and agencies (Cullen and Hassall 2013).

E-government initiatives have mainly focused on connecting government offices through backbone networks to support internal processes. Development assistance has played a key role, with three networks financed through assistance from China and one from Australia (Table 7.8).

Through development assistance, Fiji developed the Government Network (GOVNET), linking most government agencies in the capital city Suva, as well as in some other locations. A fibre network backbone is used in Suva, while wireless technology is used in other parts of the country. GOVNET allows the government's

Table 7.8 Government networks

Country	Government network	Development partner
Fiji	Fiji Government Network (GOVNET)	RMB 145 (US$18) million loan from China EXIM Bank (2004)
Samoa	Samoa National Broadband Highway (SNBH)	$US20.5 million loan from China EXIM Bank (2011)
Solomon Is	Solomon Is Government (SIG) Connect Network	AUS$3.25 million grant from Regional Assistance Mission to Solomon Islands (RAMSI) (2011)
Vanuatu	Government Broadband Network	US$29.5 million loan from China EXIM Bank (2009)

Source: PRIF 2015

some 36,000 civil servants to exchange information electronically. The government also has a state-of-the-art data centre (PRIF 2015). However, although the basic infrastructure for interagency integration is in existence, most e-government initiatives so far implemented are single agency-specific applications. Similarly, in Samoa and Solomon Islands, the primary focus has been to enhance connectivity for ministries and offices in order to carry out administrative processes more efficiently. However, for Samoa and Solomon Islands, as well as the other Commonwealth Pacific small states, initiatives have been fragmented and incomplete (Table 7.9). Therefore, Fiji's GOVNET approach shows great promise to drive e-government in other countries, with development of guidelines and technical assistance packages to speed up implementation.

ICT in climate change, disaster risk reduction and management

The use of ICT for disaster risk reduction and management is a well-established practice, with existing ICT-based systems for early warning and information

Table 7.9 Status of e-government development

Country	E-government plans	Ministries have websites/ portal	E-services established	Programmes established to digitalise historical records	Programmes established to capture traditional knowledge
Fiji	Yes	Yes	Yes	Yes	Yes
Kiribati	No	Yes	Yes	No	No
Nauru	No	Yes	No	No	No
PNG	Yes	Yes	Yes	Yes	n/a
Samoa	Yes	Yes	Yes	Yes	n/a
Solomon Is	No	Yes	No	No	No
Tonga	No	Yes	Yes	n/a	Yes
Tuvalu	No	Yes	No	No	No
Vanuatu	Yes	Yes	Yes	Yes	Yes

Source: CROP ICT Working Group Secretariat, 2014

dissemination, as well as post-disaster management. The Commonwealth Pacific small states have high vulnerability to the effects of climate change and natural disasters. As such, a number of projects have been undertaken in these countries to establish ICT-based disaster risk reduction and management systems.

In 2014, a pilot project was commissioned in Tonga to establish an early warning system to mitigate the risk of natural disasters in rural communities and manage post-disaster relief efforts more effectively. The multipurpose early warning system uses radio over internet protocol linked broadband circuits and fibre optic communication network infrastructure for dissemination of information to residents in vulnerable and high-risk areas.

Under the sponsorship of ITU, a similar regional project began at the end of 2014, which aims at establishing an integrated ICT system for disaster risk management, climate change and socio-economic development. This ICT system (Smart Initiative for Sustainable Development) brings together the ICT systems for development and disaster risk management, along with supporting connectivity and ICT infrastructure, in a single unified system.

ICT in education (e-education)

The application of ICT in education and skills development is well recognised and appreciated. ICT enables effective and efficient management of the education sector at the national level, as well as the efficient delivery of education, with the integration of technology at the classroom level. For Commonwealth Pacific small states, with limited resources and dispersed populations over expansive island geography, the ICT-based solutions in delivering education remotely through virtual classes are highly appealing. As such, ICT in education has been emphasised by most of these states. To increase the effectiveness of education at the classroom level, various projects and programmes have been implemented to make ICT infrastructure and systems available at the school level (Table 7.10).

Even though the lack of broadband connectivity and internet in many of the Commonwealth Pacific small states has been a stumbling block to the downloading and sharing of educational content, there are encouraging moves to provide basic ICT infrastructure in schools (Table 7.11). While all the secondary schools reportedly have access to computers and internet, the ICT infrastructure and internet may be inadequate. There are reports that the computer labs established in most schools are grossly inadequate, with the computer-to-student ratio up to 100. Many schools also cite the non-availability of the internet, or excessive costs, as challenges for increasing the use of ICT by both students and teachers.[4]

However, new 'offline' approaches are being trialled, where up to a terabyte of educational resources are preloaded onto a microcomputer, powered by a small battery (or a small solar panel) and equipped with a wifi hotspot. The content can be accessed by any device that has an internet browser, e.g. a laptop, tablet or smartphone. Teachers and students then have access to a rich resource of teaching and learning multimedia material without having to pay for internet access.

Table 7.10 Selected ICT in education initiatives

Project/Initiative	Countries	Achievement
ICT and internet in schools	Fiji, Samoa, Tonga	80 per cent of secondary schools have internet, mostly in urban areas.
ICT education courses in secondary schools	Fiji, Samoa, Tonga	In 2002, 86 of the 156 (55%) secondary schools in Fiji offered computer science and information technology education. In Samoa, 14 secondary schools had computer science curriculum in secondary schools.
Share, Engage and Educate project	Fiji	200 computers, as well as robotic kits, digital cameras and data projectors, distributed to schools. Equipment donated by individuals and the Queensland University of Technology in Australia. The Ministry of Education has also distributed over 5,000 laptops and tablets to primary schools.
The School Net project	Samoa	Computers installed in schools with student-to-computer ratios improving between 2008 and 2014, from 139 to 62 in primary schools, and 26 to 13 in secondary schools.
Education Management Information System project	Kiribati, Samoa, Solomon Is	Strengthened school administration and decision-making through better collection and exchange of electronic records.
One Laptop Per Child project	Fiji, Samoa, Tonga, Vanuatu	Distribution of laptops undertaken on an ad hoc basis. The project was not entirely successful.

Source: Adopted from various sources[5]

Table 7.11 ICT infrastructure in schools

Country	Secondary schools have access to computers	Secondary schools have internet access	ICT curriculum included in teacher training
Fiji	Yes	Yes	Yes
Kiribati	Yes	Yes	No
Nauru	Yes	Yes	No
PNG	Yes	Yes	n/a
Samoa	Yes	Yes	n/a
Solomon Is	Yes	Yes	No
Tonga	Yes	Yes	n/a
Tuvalu	Yes	Yes	No
Vanuatu	Yes	Yes	No

Source: CROP ICT Working Group Secretariat, 2014

The University of the South Pacific (USP) is a pioneer in the Pacific region in ICT-based tertiary education. USP caters for over 20,000 students, about half of whom are studying at remote campuses and centres across the Pacific islands through ICT-based distance education. USP Net connects all its 15 campuses with broadband and allows video conference delivery of lectures. The university is aiming to offer all its courses online through its Learning Management System Moodle. USP also established the Teachers' Education Resources and e-Learning Centre in 2011 to support the efforts of national governments in developing e-learning policies, strategies and programmes, as well as the provision of training on the use of ICT in teaching and learning. In addition, USP has supported many regional and national-level initiatives, including ICT curriculum development, development of a Regional Framework for ICT in Education and the Fiji-Pacific Knowledge Hub.

ICT in health

Commonwealth Pacific small states face several challenges in the health sector, including shortages of health staff, specialist health expertise and supporting health infrastructure. To leverage the limited available resources, ICT has been used as a tool to address some of the challenges in the health sector.

Most countries have developed and implemented health information systems at the national and district level, leading to better operational and strategic management of the health sector. Computerisation of patient records and hospital management, including pharmacy and drug supply management, patient management, doctor/nurse scheduling and time management, and early health warning systems using mobile phones, has also resulted in overall improvement in the functioning of the health centres. Uploading of health data and sharing of patient data between hospitals and clinics is facilitating delivery of health services, although often hampered by low bandwidth and lack of connectivity.

Another noteworthy initiative was undertaken by the Fiji School of Medicine, Telecom Cook Islands, and the Pacific Islands Telecommunication Association in partnership with service providers (hospitals and clinicians in the Pacific islands and USA) under the Western Pacific Health Net project. This initiative employed a telemedicine application that facilitated specialist medical diagnosis from doctors overseas within a period of 24 hours after the patient's medical reports, X-rays and scans were sent over the internet.

In addition, the World Health Organisation's (WHO's) Pacific Open Learning Health Net (POLHN), in partnership with Pacific ministries of health, is a notable initiative in using ICT platforms to improve the quality and standards of practice of health professionals.[6] POLHN provides free online courses for health professionals in 40 learning centres across the Pacific, with more than 2,000 health workers trained since 2007.

ICT in business (e-business)

As the ICT connectivity and broadband infrastructure improves, the feasibility of establishing and running profitable technology-based business should also increase. For the technologically and economically advanced Commonwealth Pacific small states,

such as Fiji, business communities through their associations and with support from their respective governments have undertaken several programmes aimed at expanding business investments and technology flows into the region from India, New Zealand, China and Australia, among others. The technical know-how and investment inflows into the region can be expected to lay a strong foundation for ICT-driven business in the region, provided that the policy and infrastructure constraints are mitigated. Similarly, there is potential for many e-commerce opportunities, as the ICT and internet infrastructure expands and local skills develop. These opportunities include e-business operations like call centres, data analysis, business process outsourcing and IT service offshoring, such as that in many parts of Asia and Africa, even in remotely located but well-connected communities in Kenya and Sri Lanka.

There are also some innovative e-commerce initiatives being undertaken by the private sector entrepreneurs in the region. For example Mindpearl,[7] an international call centre company, is active in Fiji, besides other international locations, to provide offshore contacting and call centre services to clients all over the world. Similarly, E-Business Pacific,[8] a regional cloud-based service provider, is in the process of publishing detailed information about Pacific businesses online as a directory that would allow legitimate companies and organisations to broadcast their products and services. Although these innovative initiatives are at present at a very basic level, they have potential to develop into full-blown end-to-end e-commerce enterprises.

7.2.5 ICT strategies, policies and regulations

Most of the Commonwealth Pacific small states have formulated strategies, policies, laws and regulations to develop and regulate the ICT sector (Table 7.12). However, the coverage and implementation status of ICT policies varies across the region. Some countries like Fiji, PNG, Samoa and Tonga have already adopted national ICT policies and two of them (Fiji and Samoa) are in the process of revising their policies, having adopted their first ICT policy some eight years ago. The remaining countries are at various stages of development and implementation (Table 7.12).

Table 7.12 Policy, legal and regulatory environment

Country	National ICT policies	Cyber-crime legislation	Regional strategy to combat cybercrime	Electronic files admissible in court	Data protection legislation	ICT educa-tion Policy	ICT health Policy
Fiji	Yes	Yes	n/a	n/a	No	Yes	Yes
Kiribati	Yes	No	n/a	No	No	No	No
Nauru	No	No	n/a	n/a	No	Yes	n/a
PNG	Yes	No	n/a	n/a	No	Yes	n/a
Samoa	Yes	Yes	n/a	n/a	No	Yes	n/a
Solomon Is	No	No	n/a	No	No	No	No
Tonga	Yes	Yes	n/a	Yes	Yes	Yes	n/a
Tuvalu	No	No	n/a	No	No	No	No
Vanuatu	Yes	Yes	n/a	n/a	No	Yes	n/a

Source: CROP ICT Working Group Secretariat 2014

Over the last 15 years, a number of regional initiatives have been instrumental in laying the foundation for national ICT policy development. With the support of development partners, an E-Pacifika programme was launched during 2002–2003 to raise the level of awareness among the leaders and decision-makers in the region of the need and importance of national ICT policies and strategies.

Significantly, in 2002, at the Forum Communications Policy Meeting, Ministers endorsed the Pacific Regional ICT Policy and Strategy, which was developed by the ICT Working Group of the Council of Regional Organisations of the Pacific (CROP). The Regional ICT Policy and Strategy covered some common areas of concern to all Pacific island countries, such as the lack of connectivity and human resources. It calls for regional and national institutions to work with service providers to ensure universal access to ICT, sets out to enhance regional co-operation in ICT infrastructure development, adoption of global ICT standards, encourages private sector investment in ICT and aims to lessen the financial burden that ICT development can impose on governments and non-government organisations. The regional ICT policy has served as a model for the development of national-level ICT policy and strategy. However, although considerable progress has been made in the development and adoption of national policies and strategies, serious gaps remain, as noted before.

In related developments, in 2005, Pacific Leaders, recognising the importance of a regional approach to ICT sector development, commissioned the development of a Digital Strategy for the Pacific islands. The Digital Strategy was revised in 2010 with the formulation of the Framework for Action on ICT for Development in the Pacific (FAIDP), and further reviewed in 2014. The Regional Digital Strategy, consistent with the regional ICT Policy, emphasised the need to foster a conducive environment for ICT infrastructure investment, connectivity and accessibility, as well as encouraging ICT adoption in government, businesses and society at large. The priority areas of the Regional Digital Strategy included: improving access to communications technology; reducing costs; establishing higher bandwidth connection to the global ICT 'backbone'; removing inappropriate regulatory environments; and attracting higher levels of investment and strengthening ICT skills. Moreover, the digital strategy underscored the need for the development and implementation of ICT policy in each country.

Since the development of the broad regional ICT policies and strategies, many initiatives and projects have been launched during the last ten years to improve the national and regional policy and regulatory environments in the region. For example, the European Commission and ITU launched a project in 2009 to build human and institutional capacity through a range of targeted training, education and knowledge-sharing measures, as well as developing background material for possible harmonised policies for the ICT market.[9] More recently, the Japanese government and USP established the Japan-Pacific ICT Centre,[10] which provides assistance and guidance for the development of ICT security policies, laws and regulations.

However, even though considerable progress has been made at the regional and country level, ICT and digital policies and strategies at the national level are either not fully developed, have coverage gaps or have yet to be adopted and implemented.

In addition, although ICT laws and regulations required for data protection and prevention of cybercrime have been formulated, for most of the Commonwealth Pacific small states the legal and regulatory environment is underdeveloped and incomplete. For example, in Kiribati there is a Copyright Ordinance that provides protection for intellectual property rights but offers no recognisable protection for computer software or programs. Tuvalu faces a similar situation. On the other hand, Fiji has developed a comprehensive cyber security policy, which can serve as a good practice example for replication in other Commonwealth Pacific small states.

ICT laws must form an integral part of the legal regime of each country, not as separate pieces of legislation. While specific laws would be required to regulate e-government, e-commerce and afford protection to intellectual property rights in order to encourage flow of investment and promote domestic innovation, there is a greater need to ensure that existing laws are aligned with the ICT laws to avoid conflict and facilitate enforceability. Apart from ensuring that appropriate laws are in place, it is equally important to ensure that appropriate enforcement and monitoring systems, and institutions are in place.

7.3 Gaps and opportunities

Despite the good progress at the national and regional level, there is still much room for improvement. The following section highlights the gaps and opportunities that currently exist for the expansion of ICT usage, innovation and diffusion, as well as for its application in the various social and economic sectors in the region. It should be noted, though, that regional and national stakeholders are well aware of these gaps and the opportunities that exist, with plans in place to address these areas through a refreshed regional ICT initiative, led by USP through the CROP ICT Working Group. Therefore, implementation of the regional ICT initiative will be key to addressing these gaps and opportunities.

7.3.1 Expanding connectivity and ICT infrastructure

Although ICT connectivity appears to be expanding, wide intra-regional differences exist. Mobile subscriptions have increased across all the Commonwealth Pacific small states, although there is significant disparity in internet penetration. For instance, while Fiji has reached an internet penetration level of 42 per cent, Papua New Guinea, with a population of 7 million, accounting for nearly three quarters of the region's total population, has less than 10 per cent internet penetration.

Similarly, although ICT connectivity infrastructure for mobile services and broadband internet seems to be expanding, wide disparities exist within the region. There are also serious gaps between the demand for ICT connectivity and telecom services, and what is currently being supplied. Large areas of the region are either not connected at all or receive low-quality narrowband telecom services. The World Bank estimates that the total demand for bandwidth in the region is 44Gbps, but only 18 per cent is currently being supplied and the demand for more bandwidth is likely to increase as ICT applications and diffusion expand (World Bank 2015).

ICT connectivity is currently delivered through a combination of mobile, satellite, submarine cables, wireless and fixed networks, and these technologies will continue to serve as the backbone of communications in the region in the future. At present, only five of the nine Commonwealth Pacific small states secure international connectivity through undersea cables. In addition, although fibre optic submarine cables provide the best means of reliable broadband connectivity, most of the region is not connected to the submarine cable network. Despite the arrival of the undersea cable on many islands, the situation has not really improved ICT access for majority of the islands over the last decade. The expensive maintenance of the cable and the cost of distributing its connectivity to most islanders remains a challenge. Moreover, in many places, the undersea cable only provides affordable, quality bandwidth within 5 km of city centres, which means that residents living beyond this coverage are often able to access only expensive and slow packages (CROP ICTWGS 2014).

The high cost of laying and maintaining submarine cables, coupled with the small markets in outlying islands, does not make a good business case for private sector investment. Therefore, the support of the international development institutions, as well as innovative business and investment models, would be necessary to expand the submarine cable infrastructure in the Pacific.

7.3.2 Mix of innovative connectivity technologies

Given the inherent geographical barriers in expanding mobile connectivity throughout all the islands, the growth rate in mobile connectivity is expected to taper off as it reaches its saturation point. As such, a combination of connectivity technologies would need to be followed to reach universal broadband connectivity. This trend is already underway through satellite connectivity, with multiple operators bringing in different and newer technological systems. For instance, 03b Networks has launched a constellation of near earth satellites to provide higher bandwidth and low latency connectivity in some of the islands in the Pacific.[11] ITU's Connectivity Project for Small Island Developing States in the Pacific also uses a mix of connectivity technologies for application in disaster management, climate change mitigation and socio-economic development.

7.3.3 Optimising ICT applications

As a guiding principle, ICT applications must be optimised to the situation at hand as relative priorities will change from country to country and from one period to the next. However, the following areas of ICT applications have universal importance and will continue to be relevant today and the coming years, particularly for the Commonwealth Pacific small states.

ICT for public governance

The fragmented approach of Commonwealth Pacific small states to e-government development (building networks, digitising processes and implementing software applications in a random manner) is suboptimal. A holistic and long-term approach at

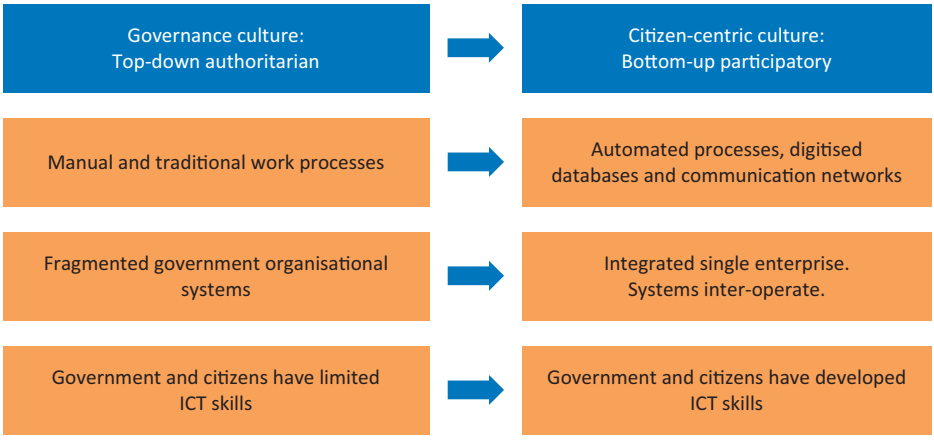
the national level is required. E-government programmes should be seen as a public-sector change management process and not as a mere computerising and digitising exercise. E-government in its widest sense is not only about digitising government processes but encompasses a fundamental change in how the government functions and how public services are delivered in an environment of high-technology usage within and outside the government. E-government can only be successful when the Government, including all its departments and sections, uses ICT optimally in managing government processes and service delivery. Citizens, businesses and other government constituents should also be technically, culturally and mentally prepared to embrace e-government.

Essentially, e-government has to be viewed as a change management programme that seeks to change people, processes and technology (Figure 7.4). The basic requirement for successful e-government is the change of the governance culture from top-down authoritarian to a bottom-up citizen-centric culture. This requires organisational and structural changes in the government that encourage citizen participation and demand horizontal flow of information across agencies and departments, integrating government systems into a unified whole. The government has to work virtually as a single enterprise to be successful as an e-government.

The seven key success factors that can make the difference in e-government development: political commitment, legal and regulatory reforms, institutional and organisational changes, financial and manpower resources, national policy, government reforms and skills and awareness (Figure 7.5), conceptually advocate the importance of a holistic and integrated approach mentioned earlier.

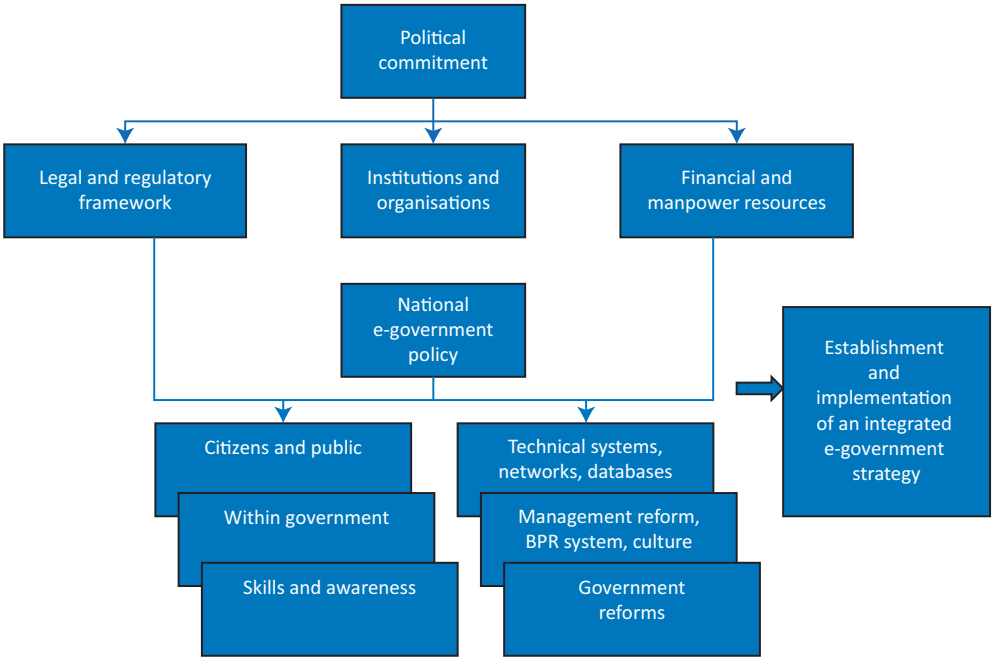
Over the past several years, the Commonwealth Secretariat has assisted with the development of e-government for its member nations. The framework for e-government development formulated by Commonwealth Secretariat (Figure 7.6) emphasises the importance of an integrated approach to e-government development and identifies

Figure 7.4 E-government change management



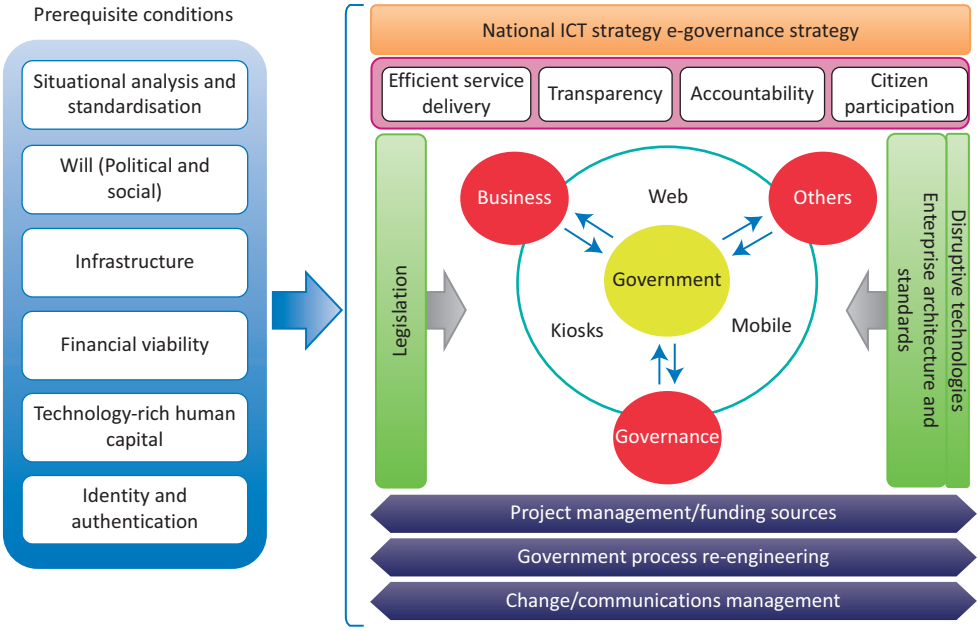
Source: Developed by the author

Figure 7.5 E-government development framework



Source: Adopted from UNPAN E-Government Development in the Pacific

Figure 7.6 E-governance framework



Source: Commonwealth Secretariat

the key critical areas for systematic and optimal e-government development. Besides the technical networks, systems and software issues, the framework underscores the importance of political will, capacity and skills development within the government and outside, as well as laws and regulations. It is crucial that the Commonwealth Pacific small states consider an integrated and holistic approach in e-government development, as advocated by the UN, Commonwealth and other international organisations.

Most of the Commonwealth Pacific small states have developed basic technology infrastructure for e-government, including agency-level hardware, as well as software platforms and networks. While technology adoption is necessary to establish networks and agency-level systems to support e-government, there is an urgent need to develop national technology policies, standards and systems that would ensure interoperability between the individual agency systems. This will enable operation of the national government as a single enterprise in accordance with the designed national systems architecture. Indeed, it is important to also have region-wide uniform technology standards for e-government development and adoption, which will allow for data exchange not only between systems within each country, but also between national systems in the region. The latter is likely to become increasingly a necessity.

The laws and regulations that enable smooth e-government operation include laws on data protection and privacy, and laws that recognise digital formats (documents, signatures). Supporting public infrastructure and certifying authority organisations are also needed to support these laws and regulations. In many Commonwealth Pacific small states, laws on data protection and digital formats have been enacted but underlying systems and the organisational base for their implementation are lacking.

ICT to increase resilience to natural disasters and climate change

For Commonwealth Pacific small states, there is considerable scope for expanding the application of ICT to increase their resilience to natural disasters and climate change. Some of the innovative ICT application areas that could be strategically employed for this purpose are shown in Table 7.13. In particular, governments should consider the development and deployment of an integrated disaster risk reduction (DRR) system that provides early warning to people at risk using variegated technologies, including Geographical Information Systems (GIS) and remote sensing. This system can also be used for post-disaster management rescue and rehabilitation efforts. To obtain optimality, the DRR system should be synergistically aligned with the relevant national e-government systems. Indeed, the DRR systems developed at the national level should be developed as a component part of the broader national e-government system. In addition, the present trends in big data analytics[12] would make it feasible to undertake DRR simulations or climate change modelling under different assumptions in order to increase preparedness and to undertake suitable long-term planning.

Promoting e-education

The application of ICT in education has been established as an effective tool for improving the learning process within schools, as well as overcoming resource

Table 7.13 Possible ICT applications and tools for disaster risk reduction and climate change

ICT Application/Tools	Remarks
National disaster risk reduction, response and early warning systems	A national disaster risk reduction, response and early warning system, integrated as part of the e-government system, similar to systems in place in Bangladesh and South India, which are also highly vulnerable to natural disasters.
Early warning systems based on multiple technology	Early warning system should be based on a combination of technologies, like GIS and remote sensing, that can warn of incoming disasters, supported by dissemination systems based on both traditional (radio, TV, etc.) and modern technologies (mobile phones, web portals, etc.). Online media is increasingly playing an important role in early warning, as demonstrated by Alert Net, a humanitarian news network based around a website that attracts more than 10 million users per year.
Post-disaster relief and response systems	ICT tools and applications can be used to streamline disaster relief and rehabilitation efforts. Normal communication can be damaged due to disaster so emergency communication systems, including radio, wireless, and satellite broadcasting, are vital. Post-disaster GIS maps can be used for planning and assessment of damage. Various collaborative tools can also be employed to manage disaster recovery efforts, such as the Sahana Disaster Management System, a web-based free and open source software collaboration tool, developed and used by the Sri Lanka government after the Indian Ocean tsunami in 2004.
Climate change modelling	ICT tools and technologies can be used to collect and analyse large volumes of data to create and simulate various possible climate change possibilities and building scenarios under various assumptions using big data analytical tools and building suitable climate change algorithms.

Source: Developed by the author from various sources

constraints due to limited school capacity or shortage of teachers through virtual classrooms and remote education. ICT's efficacy is environment-independent as its effectiveness can be seen in the education of girl students in traditional communities of Afghanistan as much as in the remote islands of the Pacific. As ICT-based learning technologies and applications get smarter, coupled with widespread use of mobile devices, there are many opportunities for the Commonwealth Pacific small states to capitalise on ICT application in education to ensure lifelong learning.

Although a number of initiatives have been taken to expand the use of ICT in education, these have been unco-ordinated and random. None of the Commonwealth Pacific small states have a comprehensive ICT in education plan. The availability of computers and internet access is also often implemented through donor assistance and the focus is typically on the use of computers by administrative staff and to compile education statistics.

In order to expand the reach and availability of educational opportunities for each Pacific island citizen, a comprehensive national and regional strategic plan is required to integrate ICT in education, expand ICT literacy in schools and expand remote education and e-learning. The lead that USP has taken in the region to expand ICT in education should be broadened and indeed replicated to establish other similar centres of excellence in ICT education.

With broadband connectivity and internet expected to expand in the years to come, establishing and operating distance education hubs, and conducting virtual and online classes, should become easier. Technological developments in cloud computing, large-scale data centre management, as well as in e-learning and virtual classroom domains (where real classroom experience is being replicated in the online environment), will also make the establishment of large-scale virtual schools, colleges and universities an attractive possibility.

Promoting e-health

While Commonwealth Pacific small states have adopted ICT applications in the health sector to improve its efficiency and effectiveness, there is much more that can be done to maximise the use of ICT for health. Lack of ICT resources, as well as the lack of broadband and reliable connectivity, are major constraints. However, the expansion of broadband connectivity and expansion of both mobiles and the internet across the countries, open up many strategic options for ICT application in health, some of which are shown in Table 7.14.

Promote ICT innovation and diffusion for business and income growth

In the long run, Commonwealth Pacific small states can benefit from encouraging and promoting ICT innovation and diffusion to spur private sector development. Innovations in ICT technology can lead to localised ICT products and services to fuel business growth. Promoting formal research and development in universities, as well as provision of grants and prizes to individuals or small and medium-sized enterprises can help encourage ICT innovation and diffusion. These types of initiatives can develop a dynamic local ICT industry that can cater for local market demands but can also have applicability in the regional or global markets. India's IT industry growth, world-class ICT innovations emerging from Estonia, and Kenya's innovative mobile technology applications are good examples of how countries have promoted ICT through innovation and entrepreneurship.

Technology innovation lays the foundation for increased diffusion of technology, which has the potential for societal transformation and growth. However, Commonwealth

Table 7.14 Possible areas of strategic ICT applications for health

Description of the application	Remarks
SMS push messages and health alerts to the general population	Mobile-based applications that involve individual and mass dispersion of health alerts. Mobile connectivity essential. *Besides SMS application deployment, resource needs are limited.*
Remote health service delivery through telemedicine system deployment	International telemedicine delivery centres in Australia, New Zealand, India and the US could collaborate with telemedicine receiving centres that can be established at strategic locations in the region. At the national level, the same infrastructure and system can be rolled out. *High infrastructure investment and bandwidth requirements.*
National patient database with accessibility to all clinics and hospitals, including data and document sharing between all clinics and hospitals	A central patient data management application with accessibility to all health centres/clinics/hospitals and data sharing between health centres and hospitals. *High infrastructure investment and bandwidth requirements.*
Highly integrated national Health Information Management System (HIMS) interoperable with a Regional HIMS, consistent with WHO standards	National HIMS linked to Regional HIMS with realtime field data capture through mobile devices of the field workers and usage of big data and data analytics tools (ICT technologies that permit capture, management and analysis of large volumes of data) for strategic decision-making.

Source: Compiled by the author

Pacific small states' governments must provide an enabling environment to promote ICT innovation and entrepreneurship, including platforms for joint efforts between the government and the private sector.

ICT also opens up opportunities for increased income to individuals and communities by providing market information and prices to consumers or providing market preferences and needs to producers. For example, through ICT tools, horticulture producers in Southern Bhutan can adjust their supply as they have real-time access to market trends (prices and demand) in Kolkata, their major wholesale market. This has substantially increased the average income of the farmers in Bhutan. Electronic commerce is transforming the business landscape of India, as much as it is opening up new and better market opportunities for producers of tea and coffee in Kenya and Ethiopia.

Similarly, as broadband connectivity and internet infrastructure expands, more businesses and communities in the Commonwealth Pacific small states will be able

to capitalise on ICT tools to find local, regional and international markets to promote their products and services, as well as conduct their businesses online at very low cost, which would increase their incomes. For example, in the tourism sector in Fiji, many small and medium-sized hotel operators increasingly use the internet and other social media platforms to reach out to their markets (e-marketing), as well as for online booking and payments. In addition, with the expansion of broadband internet and mobiles in the Pacific, overseas investors and entrepreneurs from countries like Australia, New Zealand, India and the USA find it profitable to set up nearshore[13] or offshore[14] centres, such as call centre management, data entry, legal backend work or business process management, in Commonwealth Pacific small states that have conducive ICT business environments.

7.3.4 Conducive policies, laws and regulations

Although Commonwealth Pacific small states have made appreciable progress in the development of basic ICT policies, laws and regulations, there are significant gaps. Much more needs to be done to revisit already defined instruments, expand them to fill the gaps, and design appropriate implementation and enforcement institutions, organisational systems and procedures; both at the regional level, as well as at the country level.

For instance, telecommunications and internet development are usually covered under general ICT development policy but should also be covered more comprehensively, through stand-alone policy and regulations of each area. While telecommunications development usually has comprehensive coverage, there are usually no laws and regulations of internet-based content and online media. Laws and regulations are also required for intellectual property rights as they apply to the emerging digital environment. Cyber security is also an emerging area that warrants attention.

E-government related policies, regulations and technical standards are necessary to ensure interoperability within the government, as well as to establish e-service delivery obligations of the government. In this regard, the region may consider developing an E-Government Interoperability Framework, which will, among other things, include technology policies and standards to be adopted and implemented by each Pacific island country. This will ensure technical interoperability within each country and also facilitate integration at the regional level.

In developing policies, laws and regulations, Commonwealth Pacific small states can benchmark against international best practice guidelines and standards adopted in each of the ICT application areas. Examples include UNCTAD model laws, standards and guidelines on e-commerce; National Standards for Quality Online Teaching (developed by the International Association of K-12 e-learning) and ITU E-health Standards and Interoperability, among others.

However, mere development of policies, laws and regulations is not enough. Governments need to also ensure that appropriate organisational systems, procedures and practices are in place to ensure that policies, laws and regulations are effectively implemented. Government staff and officers, including administrative managers,

judges and police personnel responsible for implementation and enforcement of the laws and regulations, should also be appropriately trained.

7.4 The way forward: Looking to 2050

Through the Framework for Pacific Regionalism, the Pacific Islands Forum Leaders have articulated the Pacific's vision, values and objectives, which the nine Commonwealth Pacific small states have committed to:

> *"Our Pacific Vision is for a region of peace, harmony, security, social inclusion and prosperity, so that all Pacific people can lead free, healthy, and productive lives."*

The Pacific's vision, values and objectives aligns well with the achievement of the Sustainable Development Goals (SDGs) by 2030, which Pacific Leaders have also committed to. The Pacific Leaders' Vision thus can be taken as the vision for 2050, with the achievement of the SDGs as the roadmap for getting there. The application of ICT is ubiquitous and cross-cutting as it will facilitate and support the achievement of the SDGs, and, in the process, fulfil the Leaders' Vision for the region.

Despite their unique challenges, Commonwealth Pacific small states have made noticeable strides in developing and adopting ICT infrastructure and technology. However, there are remaining gaps in ICT infrastructure, connectivity and applications, as well as weaknesses in the strategies, policies, and regulations in place. Addressing these gaps will be critical to take optimal advantage of the opportunities that ICTs can open up for these countries' sustainable development up until 2050. Active, systematic and long-term strategic intervention is called for to overcome the gaps and weaknesses that currently exist and to prepare these countries to dynamically absorb technologies as they develop and advance towards 2050.

7.4.1 Global ICT trends

Within the next three decades, ICT is expected to be radically different from what it is today. According to Moore's Law, the capacity of semiconductor chips doubles every 24 months, while the cost halves in the same period. Moore's Law has been validated by the developments in technology in the last two decades. Therefore, there is no reason to doubt that Moore's Law will hold in the next three decades. Much of the current research on ICT is likely to produce products and services that are unimaginable at present, while currently expensive technologies should be within the reach of most people in the years to come. The likely developments in ICT in the coming decades will have far-reaching impact on the Commonwealth Pacific small states as elsewhere in the world.

The size and cost of semiconductor chips are progressively decreasing, as their computing power increases. Current semiconductor chips are close to the size of an atom, with research now focused on quantum computing or the development of chips that use the subatomic energy states for data computations. The capacity and speed of computing, including data processing, would increase a thousandfold with quantum

computers, and these computers should be available in the coming decades. At the extreme of semiconductor research is the idea of organic computing or developing chips with organic matter rather than silicon.

In the area of telecommunications, rapid progress is being made in satellite, microwave and fibre optics technologies. By 2050, there is expected to be enormous development in satellite and related technologies, including vastly expanded bandwidth and new spectrum coding technologies that will double or triple bandwidth of existing satellites, and launch costs are likely to decline substantially. The next generations of satellite systems will usher in a new paradigm in universal and bidirectional access, including television, internet and new media. Similarly, current research point to fibre optics networks with an enormous increase in data transmission capacity per unit cost and intelligent fibre optics networks with self-configuring capabilities.

There are also advancements in database technology, where research is centred on data mining from diverse and disparate databases, automatic data tuning and database administration, and at the cutting edge, the clustering of large-scale databases. Cloud computing[15] will likely form the basis of the next major wave of technology innovation that would significantly impact human society. With the developments in cloud computing and database research, virtually all the software applications and databases in the future will exist in remote large-scale data centres in the cloud. Major IT corporations, including Google and Microsoft, are investing heavily in cloud computing.

In addition, human computer interaction and security technologies, such as voice recognition, face recognition and interactive voice, are developing fast. This should increase information security, as well as make it easier for users to interact with their computing devices.

One of the most significant developments in the technology scenario of the future can be expected to occur in the convergence of technologies. Future technologies are likely to be platform- and domain-independent with a high degree of overlap with each other. The communications, media, entertainment and ICT-based service technologies will converge with artificial intelligent agents managing them in an integrated manner. Human intervention can be expected to be minimal. The trend in convergence of technologies is already in evidence, with the very basic level of a present-day smart mobile device doing multiple tasks. This trend is likely to accelerate in the years to come.

While it is impossible at this stage to say with certainty what technologies and tools would be available by 2050, the present trends in technology research provide an indication for the future. It can be said with a high degree of probability that 2050 will likely be characterised by high-speed data transmission networks, large-scale remote data centres housing both databases and applications, data processing in computing devices at mind-boggling speeds, which are likely to be integrated with other personal devices, and the proliferation of voice-based and visual human computer interaction. In such a technology scenario, what looks impossible today may be routine in 2050.

In order to take advantage of the opportunities of both current and future technologies, Commonwealth Pacific small states must address the gaps and weaknesses in their existing ICT ecosystems. Necessary changes need to be made today to facilitate dynamic adoption and absorption of technologies as they emerge in the years and decades to come.

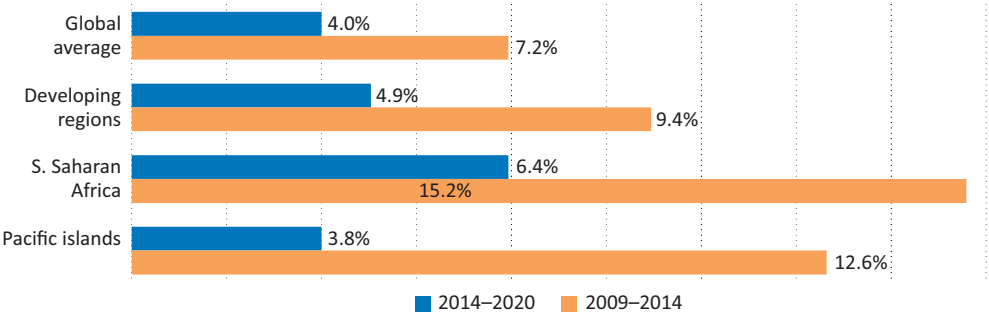
7.4.2 Regional ICT trends

In the last five years, Pacific islands have witnessed a high and robust growth in mobile penetration. The 2015 GSMA Mobile Intelligence Report stated that the Pacific islands recorded relatively rapid unique subscriber growth, reaching 4 million in 2014, up from 2.3 million in 2009, a compound annual growth rate of 12 per cent, which is well ahead of the global and developing region average (Figure 7.7). However, in the years to 2020 growth is expected to slow significantly to 3.8 per cent, largely due to difficulties in extending connectivity to the outlying regions and islands, and the challenge of affordability in a region with widespread poverty. The annual mobile growth expected in the years to 2020 will be below the global and developing region average (GSMA 2015).

Although some of the countries in the region have adopted 3G technology for mobile connectivity, 2G currently remains the dominant technology. This situation is expected to change significantly as 3G and 4G broadband technologies are adopted (Figure 7.8). The GSMA Mobile Intelligence Report 2015 estimates that the majority of the mobile connections in the Pacific islands would be broadband in the next five years. By 2020, the share of 3G and 4G would rise to 30 and 18 per cent, respectively. However, compared to the average growth of developing countries, the Pacific islands will lag behind to some extent.

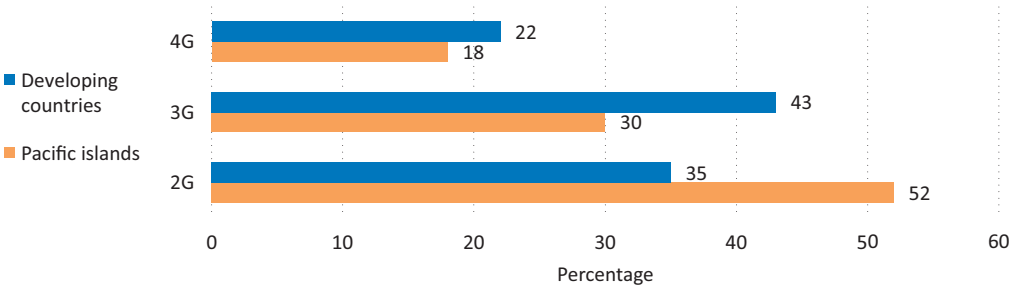
The growth of 4G is expected to be significant, rising from only 1 per cent of the total mobile subscriptions in 2014 to nearly 20 per cent by 2020. However, 4G penetration is expected to be dominated by just two countries in the region – Fiji and PNG. For example, by 2020, 4G subscriptions are expected to overtake 3G subscriptions in Fiji, accounting for 38 per cent of the regional 4G connections.

Figure 7.7 Annual mobile growth to 2020



Source: GSM Mobile Intelligence Pacific Report 2015

Figure 7.8 Mobile broadband connectivity to 2020



Source: GSM Mobile Intelligence Pacific Report 2015

Smartphone penetration in the region is also showing an increasing trend. The GSMA Mobile Intelligence Report 2015 estimates that by 2020, there will be 4.9 million smartphone connections, up from only 1.3 million at the end of 2014.

On the whole, the mobile ecosystem is fast developing and expanding in the Pacific island countries, contributing significantly to the economy and social well-being of the region. The GSMA Mobile Intelligence Report estimates that in 2014, the mobile technology sector contributed US$1.8 billion in value added terms, a contribution of approximately 4.7 per cent of the region's GDP, and provided employment to over 27,000 people in Pacific island countries. Going forward, the social and economic impact of the mobile technology is forecast to increase significantly in the years to come. The GSMA Report projected that by the year 2020, the contribution of the mobile industry to Pacific island countries' economies would increase to 6.2 per cent of GDP.

These trends to 2020 give an idea of the trends likely towards 2050.

7.5 Recommendations

The Commonwealth Pacific small states have made significant progress in the development of ICT and connectivity infrastructure, ICT diffusion and usage, ICT applications and policies, laws and regulations. However, there are many gaps and weaknesses in the policies, legal and regulatory environment and technology ecosystem of the region that need to be addressed, including on cyber security. Similarly, the application of ICT for governance, social and economic development, delivery of public services, business, education and health, and indeed for disaster risk reduction, appears to be expanding. However, the development of ICT application and systems in the region has been largely ad hoc and piecemeal, which means there is a need for more systematic and holistic planning and deployment. These challenges are currently being addressed by a refreshed regional ICT initiative, spearheaded by USP through the CROP ICT Working Group. The following recommendations, therefore, are focused on a few critical areas that can still be considered to prepare the region for a technology-driven knowledge-based society in 2050.

7.5.1 Integrated approach to ICT infrastructure & services development

The gaps in ICT connectivity infrastructure, consisting of large areas of the region either disconnected or with telecom and internet services of lower quality and bandwidth, often at prices that a large proportion of people cannot afford, can best be addressed by a mix of communications technologies. Thus, it will be important to develop and expand connectivity infrastructure by a strategic mix of communication technologies, including rolling out integrated end-to-end connectivity and service projects in partnership with private sector operators, while ensuring universal services to all parts of the region and fair profits to private sector partners.

There is a universal trend among telecom operators, as with other IT service providers, to vertically integrate their services and to expand the mix of their services as their margins in their traditional business fall. For instance, telecom companies provide value added services to supplement their telecom revenues. In the years and decades to come, this trend is likely to increase. As service providers are made responsible for the provision of end-to-end services, private operators may be more willing to establish infrastructure even in areas of low profitability, since revenue and profits would be generated in multiple services and products that use the established infrastructure.

7.5.2 Regional E-Government Resource Centre

In order to effectively develop e-government policies and standards, including e-government interoperability frameworks, technical standards and guidelines for adoption at the national level, it is recommended that a Regional E-Government Resource Centre is established. The Centre could also provide skills development and advisory services to national governments. In addition, it could complement or be integrated with the work of USP's Pacific Islands Centre for Public Administration.

E-government development should be viewed as a government reform programme rather than a mere digitising and software systems exercise. Its development should be holistic and should strategically cover all its technical and non-technical key result areas as defined in the e-government development framework.

7.5.3 Scaling up and replication of ICT application

ICT application development and optimisation should largely remain national but with regional support where required. In developing ICT applications, including e-government, e-education and e-health, among other areas, the guiding principle should be optimisation of such applications to the needs of the country or the region following a holistic and integrative approach. There are currently many good initiatives across the Commonwealth Pacific small states that should be scaled up and replicated, such as Fiji's GOVNET (e-Government) and cyber security approaches (ICT strategies, policies & regulations), the multipurpose early warning system piloted in Tonga (ICT in climate change, disaster risk reduction and management), USP Net (e-education), Pacific telemedicine project (e-health) and E-Business Pacific (e-business). It is also recommended that an ICT Innovation Fund is established to

provide grants for ICT research and prizes for ICT innovations by individuals and institutions. More importantly, the fund will technically and financially support the commercialisation of regionally and/or nationally developed innovative ICT products and services.

Notes

1 This chapter benefited from valuable comments from the University of the South Pacific (Ian Thompson, Kisione Finau) and the Commonwealth Secretariat (Anthony Ming, Resina Katafono and Denny Lewis-Bynoe).
2 Satellite communication systems are subject to international agreements and regulations. The International Telecommunication Union regulates frequency use and defines 'bands'. The C band is the first frequency band to be used for satellite communication.
3 WiMAX (Worldwide Interoperability for Microwave Access) is a family of wireless communication standards, which provide last mile connectivity as an alternative to cable and digital subscriber line.
4 SEE Project 2014; TRR (2014);Triesten Technologies 2009; OLPC Vanuatu (see http://wiki.laptop.org/go/OLPC_Vanuatu).
5 *Ibid.*
6 See http://www.wpro.who.int/southpacific/programmes/pacific_initiatives/polhn/en/
7 See www.mindpearl.com
8 See www.ebusinessfiji.com
9 Source: ITU website, http://www.itu.int/ITU-D/projects/ITU_EC_ACP/icb4pis/index.html.
10 USP (2009), USP Japan-Pacific ICT Centre. 1st PacCERT Working Group Meeting, 25 November 2009.
11 See https://www.o3bnetworks.com/
12 Big data analytics tools and data-based predictive technologies can be employed to process large volumes of data on different variables such as temperature change, sea levels, forest cover and cover emissions to develop predictive scenarios of the situation based on different assumptions in order to provide insight to decision-makers and leaders and assist national and regional planning. Recently, UN Global Pulse launched a Big Data Climate Challenge to crowdsource projects that use big data to address the economic dimensions of climate change. http://fortune.com/2014/06/23/big-data-climate-change-map-sea-levels/
13 Nearshoring refers to the transfer of backend operations to offshore locations which are located nearby.
14 Offshoring refers to transfer of backend operations to overseas locations which may or may not be nearby.
15 Cloud computing refers to the practice of using a network of remote servers hosted on the internet to store, manage and process data, rather than a local server or a personal computer.

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Chapter 8

Migration and Climate Change: Towards a Secure Future

John Connell

8.1 Introduction[1]

Migration has had a long history in the Pacific, with Pacific islanders sometimes regarded as particularly mobile people (Hau'ofa 1994). In the last half-century, there has been both accelerated international migration and rural-urban migration, with declining populations in national peripheries and growing high-density urban concentrations. These trends have accompanied slow economic growth in the Pacific, the inability to create adequate numbers of jobs in the formal sector, steady population growth and rising expectations of what constitute adequate lives and livelihoods. While migration has long been primarily an economic phenomenon, social, political and environmental factors are also significant, and climate change will intensify future pressures for migration. Migration may be seen both as a contributor to development, whether sustainable or otherwise, or an alternative to it, where for example it constitutes a significant brain drain, and that balance varies between countries and regions.

The Pacific region includes some of the most vulnerable islands and countries in the world, and the islands most at threat from climate change and population displacement are coral atolls. Gradually rising sea levels, and more intense storms and cyclones, pose risks to coastal settlements, water resources, plants and human health (Nurse *et al.* 2014). In atolls, all settlements are coastal and all are only just above sea level. There are more than 150 populated atolls in the Pacific. The Commonwealth Pacific small states most at risk are Kiribati and Tuvalu, having weak economies significantly dependent on subsistence fisheries, which restricts national ability to respond and cope domestically, and being exclusively composed of atolls scattered over a vast expanse of ocean. Neither have significant ex-colonial ties or overseas diaspora populations, hence have no 'beachhead' populations overseas with whom to build migration bridges, and fewer assured sources of remittances. Migration and resettlement within the Pacific region is limited, primarily because economic and employment opportunities are absent and appropriate, accessible land is scarce. Fiji has offered to accommodate people from Kiribati and Tuvalu displaced by factors relating to climate change. As land has become more valuable and more densely populated within the region, future pathways for displaced people are more likely to involve migration to metropolitan states.

Migration from many Commonwealth Pacific small states to New Zealand and Australia is substantial and mainly permanent, and has generally benefited sending

countries, migrants and destination countries. Agricultural employment schemes in the same two countries have opened up temporary migration opportunities in the past decade, that have been similarly beneficial, especially for Vanuatu and Tonga. Pacific islanders seek superior temporary and permanent migration opportunities in metropolitan states. New Zealand temporary and permanent migration schemes offer models for Australia and elsewhere and might be extended further.

Slow and steady migration and resettlement, the ability of the people themselves to participate in decision-making, the possibility of some people remaining at home, and their capacity to resist and slow environmental displacement are critical to the success of future migration, whether national or international. There are several opportunities for Commonwealth Pacific small states to establish some degree of 'migration with dignity' – where migration meets a range of needs and can be suitably planned and managed—but the politics of migration will become increasingly sensitive and critical. These issues are likely to become more challenging in the face of climate change, although there are considerable uncertainties about the speed and sometimes direction of climate change, especially at local scales (World Bank 2016a). Key issues centre on whether Commonwealth Pacific small states can develop economies where the 'rush to migration' can be slowed and whether harmful environmental change can be mitigated and reduced, since the costs of climate change will be considerable and phased migration difficult to arrange.

8.2 Context

8.2.1 International migration

Globally, migration from relatively poor countries to richer ones is currently substantial through formal channels and marked by one of the deadliest periods in the history of global migration as migrants seek to cross the Mediterranean in search of new opportunities. While that has largely been a response to economic problems, it also follows political and social problems and tensions in various parts of the Middle East and sub-Saharan Africa. As migratory numbers and aspirations have grown, reaction to migration has become particularly strident, marked by Donald Trump's call for a wall between the United States and Mexico, a resurgence in racism, the thrust of the successful Brexit leave campaign, which highlighted the political groundswell against globalisation, immigration and the neoliberal economic agenda. That was emphasised by strong tensions between the European Union's eastward enlargement and the sensitivity of the immigration issue, alongside the rise of protectionism and virulent anti-immigration in Australasia, marked by draconian policies towards undocumented migrants. The fundamental tension between those who wanted a United States of Europe (where there cannot be constraints on internal migration) and Britain's vision of a more limited economic-based integration was won by the strength of perceptions about excessive unmanageable migration. Migration has never been easy and there has never been a good time to be a migrant but the extent of global opposition to migration is currently at an extremely high level and that seems unlikely to change in the near future. It is this context that the present and future of Pacific migration exists.

International migration from Commonwealth Pacific small states has intensified since the 1960s, particularly from Samoa, after becoming independent in 1962. Most of that migration was voluntary, of individuals and later families, moving to metropolitan states, especially New Zealand, and with many becoming permanent migrants. Several migrant generations now exist there and in most metropolitan states. By contrast international migration from Papua New Guinea (PNG), Solomon Islands and Vanuatu has been almost non-existent. That has partly resulted from different colonial relationships. Typically, migration has largely followed 'colonial' lines, with New Zealand being a key destination, and Kiribati and Tuvalu being very latecomers to migration, since there was no migration corridor to the United Kingdom. Migration flows have generally been much less than meets demand for them within the Commonwealth Pacific small states, and are constrained by recipient metropolitan countries. Nonetheless, most countries benefit from some preferential arrangements, notably in New Zealand, although these account for small numbers.

Migration from the larger Commonwealth Pacific small states gradually extended and involve other destinations beyond Pacific rim destinations, included more evidently skilled migrants (such as health workers) and resulted in substantial remittance flows that have become significant parts of their economies. Most migration was of households. Anticipated temporary migration gradually became permanent over time. A continued steady flow has occurred in this century, with the same themes and structures, but with some new entrants, notably Tuvalu.

The outcome of these international migration flows has been a substantial population of Pacific islanders in the metropolitan states that border the Pacific. Currently, there are over three-quarters of a million Pacific-born people in Australia and New Zealand, and many more in the United States and elsewhere, and these numbers continue to grow. Second and third generations swell these numbers significantly. By 2010 some 850,000 people of Pacific ethnicity or ancestry lived in the four main Pacific Rim migrant destinations: New Zealand (350,000), Australia (150,000), the USA (300,000) and Canada (50,000). There were also small populations in the United Kingdom, Europe and Asia. In Australia, New Zealand and Canada most of these were from Commonwealth Pacific small states. The combined Pacific-born populations in Australia and New Zealand rose dramatically between 1971 and 2006, from 46,000 to 250,000. A similar increase up to 2050 would bring that population to around 1.5 million (Bedford and Hugo 2012).

8.2.2 Migration structures

While most migration from Commonwealth Pacific small states to metropolitan states has been voluntary, and has taken thousands of islanders to join their kin overseas, a number of formal schemes exist to enable particular strands of migration, whether permanent migration opportunities (the lotteries of New Zealand and also the United States) or schemes for temporary employment (invariably in agriculture) and/or for training in particular activities. These schemes offer some potential for the future migration of Pacific islanders whether or not influenced by climate change.

New Zealand is the only country that formally offers migration places to Pacific islanders. Since 2002, New Zealand has offered a Pacific Access Category, which allocates places to a range of Pacific island countries. It offers 1,100 places a year to Samoa, 250 places a year to Tonga and Fiji, and 75 to migrants from both Kiribati and Tuvalu. Places are allocated through lottery schemes (for which there is huge competition) but lottery winners must have a job offer in New Zealand to take advantage of migration. The United States similarly offers a lottery scheme but there is effectively an even smaller number of places.

Such preferences seem to have posed no problems in New Zealand, with relatively small numbers migrating annually, and might well be extended to Australia, although Australia has preferred not to make special arrangements for particular countries (other than New Zealand). No other Pacific rim states offer similar schemes and, although New Zealand has various flexible schemes, with small numbers, whenever there has appeared to be 'excessive' migration, the schemes were 'tightened up' to reduce the numbers. Formal schemes therefore have been limited in increasing migrant numbers or diversifying the flows by origin.

Moreover, in this century Australia has tended to cut back its liberal provisions for migration from New Zealand as that increasingly brought Pacific islander migrants who had first stayed in New Zealand and acquired citizenship there (Hamer 2014). A significant distinction between the two countries is that New Zealand sees itself as part of the South Pacific whereas Australia (and even more so the United States) does not. Concessional schemes for Pacific islanders have no obvious place there. Specific opportunities for 'new' migration opportunities to 'traditional' destination countries are thus quite limited.

8.2.3 Intra-regional migration

Compared with international migration beyond the Commonwealth Pacific small states, minimal intra-regional migration occurs despite the existence of efforts from at least the 1970s to promote it. Currently, the Melanesian Spearhead Group (MSG) are promoting a MSG Skilled Mobility Initiative but there is little sign of significant intra-regional migration, in large part because of competition from workers from other countries (such as Filipinos and Chinese in PNG). When countries and companies have sought to employ skilled workers they have generally sourced them within the particular country or sought to obtain them outside the Pacific. When New Caledonia expanded its mine workforce in the 'nickel boom' of the 1970s, workers were selected from the other two French Pacific territories and interest from the then Gilbert (Kiribati) and Ellice Islands (Tuvalu) was rejected. A similar pattern has continued with New Caledonian mines preferring to take Filipino mineworkers rather than taking workers from nearby island states. Much the same has been true in PNG, for the mining and construction industries.

Nevertheless, some migration has occurred within the region, including the flows of nurses from Fiji to the Marshall Islands and Palau, and from the Solomon Islands to Vanuatu, and of Fijian hospitality workers moving to the tourism sector in the Cook Islands. Such flows are relatively small. A flow does exist, however, of elite bureaucrats

and others into regional and international organisations, many of which are in Fiji. Generally, intra-regional flows are exceptional and this has contributed to some lack of familiarity, even among elite Pacific islanders, with circumstances (including job markets) in other Pacific island countries.

8.2.4 Remittances

After more than half a century of migration, especially in Samoa and Tonga, a 'culture of migration' has developed, where migration is normative, acceptable and seemingly inevitable. Underpinning international migration especially is the desire to benefit both the welfare of individual migrants, and their children, and that of family members who have remained at home. Where Commonwealth Pacific small states have moved towards a 'culture of migration', remittances are a key theme. Migrants can be well placed to contribute to development at home through their familiarity with needs, and remittances contribute both directly and indirectly to human capital formation.

As international migration has become of greater significance, so remittance flows are larger, especially in comparison with aid flows, and more stable than other sources of national and household finance. Remittances can also compensate in the aftermath of crises and disasters, whether physical (especially cyclones) or economic, being counter-cyclical. Growing recognition of their value has brought new institutional interest in managing flows and 'harnessing' remittances for financing investment and economic growth. Remittances are such a substantial component of most Commonwealth Pacific small states, and especially the smaller ones, that they have been described as having Migration, Remittances, Aid and Bureaucracy (MIRAB) economies, an acronym first devised for Kiribati, Tuvalu, Tokelau and the Cook Islands, but now seen as more broadly relevant (despite its unfortunate connotation of a handout mentality). Tonga and Samoa are within the top 20 countries in the world in terms of the contribution of remittances to gross domestic product (GDP). Sustained remittances are crucial for national development.

Both unskilled and skilled migrants, such as nurses, sustain remittance levels at high levels, over long time periods, often more than 20 years, while skilled migrants may also provide advice ('social remittances') on education, health and other matters (Connell and Brown 2004). Remittances have contributed to more modern forms of consumption and welfare benefits, especially in association with improved housing, piped water, solar panels or generators, and small-scale services such as bars or petrol stations, small stores and taxis (Brown and Connell 2015). Remittances enable some diversification out of agriculture, an increased flexibility of livelihood choices, and over time, a reduction in both poverty and inequality (Brown, Connell and Jimenez 2014). Remittances also support local organisations (especially churches) and local needs, such as recovery from cyclone damage and other hazards.

Costs of sending remittances through standard money transfer companies have been high, more so in the Pacific than in most parts of the world, so that households lose substantial sums and the GDP of remittance-dependent countries, such as Tonga and Samoa, was reduced by about 4 per cent (Gibson *et al.* 2007). Concerted efforts have been made to reduce these costs to benefit recipient households, with electronic

transfers, mobile phones and access to ATMs reducing these costs. That process is continuing slowly.

In this century, in the Commonwealth Pacific small states, as elsewhere, remittances have become a new 'development mantra' (Kapur 2005), in a climate of aid fatigue, uncertainty about private investment, the extent of international migration and the propensity in some countries to train workers for migration. They constitute an effective, informal, family-based system of social protection for migrants' families. At the same time, they may help to sustain a 'migration syndrome', while imposing sacrifices on migrants. The sustainability of remittance-dependent development is particularly important, but how family reunification overseas and greater integration of migrants into host communities, influence the ability and willingness to remit is unpredictable. 'Remittance fatigue' occurs but remittances continue while close relatives remain at home. As long as migrants retain strong ties to their home communities they can be expected to maintain remittance flows. Technological changes enabling superior and cheaper communication, both mobile phones and social networking, may enable the retention of identity and connectivity and slow any decline. Remittances are likely to become more important in the future, even in a global context of substantial opposition to international migration, and, as international migration has become more significant, and aid stagnates, the balance has swung in favour of remittances having a positive role.

8.2.5 Economies

Migration has largely been a response to perceived socio-economic inequalities that in recent years have been accentuated by both a rise in expectations of incomes and living conditions and greater familiarity with circumstances in overseas countries. Major influences on migration involve rising expectations over what constitutes a satisfactory standard of living, a desirable occupation and access to services and amenities. Changing aspirations, the increased necessity and desire to earn cash, a preference for regular employment, and distaste for agricultural work have gradually given migration a primarily economic rationale: a movement in search of wage and salary employment, scarce or absent at home. Over time migration has usually become easier in practice as already migrant kin influenced and supported migration, by providing information, sending remittances (visible symbols of success), and offering fares and accommodation for newer migrants.

An economic rationale for migration is partly a function of limited economic growth in the region that is the outcome of significant and well-known constraints to economic development in small island states. Conventional economic development has been characteristically limited through a combination of factors including small populations, scarce resources, remoteness, fragmentation, susceptibility to extreme events (especially cyclones) in fragile environments, and vulnerability to external economic shocks, which have contributed to a distinctive dependence on aid and imports. Further constraints include high communication and energy costs, irregular international transport volumes (and uneconomic routes and loads), disproportionately expensive public administration and infrastructure, scarce local skills, problems of matching skills and jobs, limited domestic capital, small domestic

markets and few opportunities for economies of scale. These constraints have resulted in very narrow export specialisation and market orientation, which usually 'exposes the economies of mini states to real shocks of an intensity unparalleled in larger countries' (Galbis 1984, p. 37), so that export prices and foreign exchange earnings can fluctuate considerably and alarmingly. Manufacturing is conspicuous by its absence and without backward linkages to the agricultural or fisheries sectors. Consequently, development has long been widely recognised to be constrained by small size (Connell 2013b). All such problems are accentuated in the two Commonwealth Pacific atoll states (Kiribati and Tuvalu), where tiny populations are scattered over vast distances.

Economic development has been disappointing in the more or less half-century since independence. Agriculture has produced the bulk of exports for most of the Commonwealth Pacific small states but in this century has proved more difficult. Fisheries offer existing and future prospects dependent on international negotiations, while tourism offers options for some of the Commonwealth Pacific small states, but the tyranny of distance and intervening opportunities have resulted in tourism being trivial in the atoll states. High islands – which make up almost all of Melanesia (Fiji, PNG, Solomon Islands and Vanuatu) and parts of Polynesia (Samoa and Tonga), though islands are smaller there – have greater development opportunities than the atoll states, especially and those of other islands that are remote from markets, such as Kiribati, Nauru and Tuvalu (Gibson 2007).

Insurance and energy costs are high and entrepreneurialism is stifled by the lack of skills, capital and contacts, but also by scarce opportunities, beyond small-scale services. Public administration is costly and inefficient, and in most Commonwealth Pacific small states, provision of services – especially transport - to remote areas has worsened rather than improved. Relatively generous overseas aid and remittances have not compensated for such cumulative disadvantages. Weak economic growth has meant that the numbers of school-leavers, and thus potential entrants to the workforce, exceed the number of jobs created.

Creating employment is regarded as a regional priority (World Bank 2014, ADB and ILO 2015). There is extreme competition for jobs, high levels of youth unemployment: a visible 'youth bulge' which has contributed to social tensions in some urban centres and pressures for migration. In most Commonwealth Pacific small states, more than half the population are aged below 24. Relatively few people by number and proportion have post-school (tertiary) education and training, which leaves shortages for skilled positions, and potential migrants without the skills to access good jobs elsewhere. These circumstances provide the context for accelerated migration.

Several Commonwealth Pacific small states can be characterised as weak and fragile where service delivery to remote areas and islands (where employment opportunities are usually particularly scarce) has worsened, resulting in selective and accelerated migration from outlying areas and outer islands. In every Commonwealth Pacific small state, the margins fade and populations have become more concentrated in urban centres. Once again, this is particularly significant, and problematic, in the atoll states.

8.2.6 Population

Population pressures have been considerable in some parts of the region and have reduced opportunities for sustainable livelihoods, notably in the Commonwealth Pacific atoll states (Kiribati and Tuvalu). Basic food security has also become more difficult to achieve in these states (Connell 2015a). That has accentuated both internal migration and interest in international migration. In every Commonwealth Pacific small state, greater pressure is being exerted on coastal resources: a widespread 'coastal squeeze' especially as populations increase, because of the desire for access to services, and to land suitable for development (whether for agriculture, tourism or the construction of infrastructure). These concentrations have had negative impacts on coastal ecosystems, marine resources and again on food security. Population growth is not generally slowing fast enough to reduce or stabilise population pressure on scarce resources. Other than in outer islands, in most parts of the Pacific people now live at densities unprecedented in past history, and increasingly unsustainable.

Enormous differences exist between population densities in atoll states (Kiribati, Nauru and Tuvalu) compared with the much lower densities in the much larger high island states of PNG, Solomon Islands and Vanuatu (Table 8.1). However, population is growing much faster there and it is not possible to assume that much higher densities can necessarily be supported there. As projections indicate (Table 8.2), populations are growing extremely fast in several countries so that the populations of PNG, Solomon Islands and Vanuatu may well have almost doubled by 2050. Such a rapid population growth will be hard to manage even without negative economic and environmental change. By contrast the populations of Samoa, Tuvalu and Tonga may stabilise as long as they are able to take continued advantage of migration opportunities. Localised pressures are already considerable, such as the very high population densities of South Tarawa (Kiribati) and Funafuti (Tuvalu). In fragile atoll environments such as these, high population densities challenge water supply systems, sanitation, and solid waste management and present serious environmental and health risks, while recent rural-urban migrants have often been forced to occupy sites that are particularly prone to environmental hazards. Economic growth is too limited to mitigate or manage such problems. Moreover, what these projections do not show is that the Pacific population will become more concentrated in urban areas in the decades to come.

While fertility rates in the Commonwealth Pacific small states have declined over the past several decades, they remain relatively high in most countries. Unmet need for family planning is an issue in some Commonwealth Pacific small states, and there are signs that total fertility rates are stagnating around four to five children per woman. Institutional and governmental focus on slowing population growth rates has declined in recent years. The continued high fertility rates in many Pacific countries (Table 8.1) result in large numbers of young people who require education, training and job opportunities, while high teenage fertility rates are linked to poor education and unemployment. The combination of high population growth rates and/or fertility, few employment prospects and inadequate living conditions emphasises both the economic rationale for migration and the difficult environmental circumstances in urban atolls particularly, which are potentially substantially worsened through climate change.

Table 8.1 Population and mobility

	Population (estimate, mid-2016)	Urban population at last census (%)	Population density (people/km²)	Last intercensal annual growth rate	Last intercensal annual growth rate (urban)	Last intercensal annual growth rate (rural)	Total fertility rate	Teenage fertility rate (15-19 years)
Fiji	880,400	51	50	0.8	1.5	–0.1	2.6	36
Kiribati	112,900	57	141	1.2	2.1	0.1	3.9	50
Nauru	10,800	100	514	1.8	1.8	n/a	3.9	81
PNG	8,151,300	13	18	2.8	2.8	2.7	4.4	65
Samoa	194,000	20	66	0.8	–0.3	1.2	5.1	56
Solomon Is	651,700	20	23	2.8	4.7	1.8	4.4	78
Tonga	100,600	23	134	0.2	2.4	0.9	4.1	27
Tuvalu	10,100	57	388	1.2	3.1	–0.9	3.6	42
Vanuatu	289,700	24	24	2.5	3.5	1.9	4.2	81

Source: Secretariat of the Pacific Community (SPC) 2016

Table 8.2 Population projections to 2050

	Population (estimate, mid-2016)	Population projection 2030	Population projection 2050
Fiji	880,400	918,700	924,700
Kiribati	112,900	149,800	200,800
Nauru	10,800	12,100	14,200
PNG	8,151,300	10,790,800	15,057,600
Samoa	194,000	212,700	239,100
Solomon Is	651,700	902,300	1,351,600
Tonga	100,600	98,400	93,600
Tuvalu	10,100	10,600	10,600
Vanuatu	289,700	397,300	479,500

Source: Secretariat of the Pacific Community, 2016

8.2.7 Rural-urban migration

Rural–urban migration is mainly a Melanesian phenomenon, but is also substantial in Kiribati and Tuvalu, and is something of an alternative to international migration, where that cannot be achieved. Small urban areas have long existed in much of the Pacific but urbanisation has been relatively recent and quite rapid in Melanesia. Towns and cities have grown rapidly there in the years since independence, but without real planning or management. This has resulted in 'over-urbanisation' where urbanisation is characterised by high levels of unemployment (as youth graduate at a rate significantly faster than job creation: the 'youth bulge'), formal housing cannot meet the needs of migrants (and others), urban services, such as water and electricity, are absent, informal housing areas have become significant and environmental problems, associated with inadequate sewerage, water supply and waste management, and occasional flooding, have intensified. That has added to serious problems of urban management.

Unmistakably, Commonwealth Pacific small states face an urban future, and in the majority of these states urban population growth rates exceed national population growth rates (Table 8.1). In the atoll states of Kiribati and Tuvalu, urban populations now exceed rural populations. By 2050, it is likely that there will be at least one city of over a million people in the Pacific - Port Moresby – where more than half the population currently live in informal settlements. Informality occurs where incomes are low and irregular, public housing policies fail to meet demand for low cost housing, urban planning and management remain weak, formal housing is too scarce (or too expensive) and migrants especially are without employment and adequate incomes (Connell 2011). Many urban settlers have few sources of income, no legal residential status and no security of tenure, limited access to services (such as water, electricity and sewerage), and live at high densities, the combination of which poses social and health risks. Thus within parts of Tarawa, population densities are akin to those in Hong Kong, and social problems such as domestic violence, theft and alcohol abuse have become more significant.

Urbanisation is a combination of in-migration, usually the outcome of rural-urban migration, and less frequently immigration, but also of urban fertility. Land shortages

are the quintessential urban phenomenon, alongside land tenure disputes and conflicts, resulting in increasing numbers of informal settlements on unsuitable land (to which services cannot easily be extended), illegal dumping and other harmful practices. At least since the 1980s, many recent migrants have settled in marginal, particularly low-lying urban areas that are prone to flooding and disease problems, as in Tarawa and Funafuti. In Tarawa, migrants have settled illegally above key water lenses – so contributing to their pollution. In such marginal areas, occupied by the relatively poor, management is absent, services and water security are scarce and continued unregulated growth worsens such problems. Climate change is likely to contribute to accelerated rural-urban migration and greater pressure on urban areas.

The socio-economic impacts of poverty and environmental degradation are greatest in urban areas since many low-income residents live in marginal areas, have restricted ability (whether savings, insurance, or social ties) to cope with crises. Indirect costs include households' reduced ability to pay school fees, resulting in children missing school, additional costs for health care from an increased incidence of water and vector-borne diseases, but reduced ability to purchase food and medicine. These issues are particularly problematic in the larger towns of Melanesia and in the smaller but distinctly urban centres of the atoll states where population densities are some of the highest in the world, and where interest in international migration has consequently grown.

8.2.8 The atoll 'problem'

Atoll states are prone to a range of hazards that exist elsewhere – from cyclones to tsunamis – and islanders are less easily able to mitigate such hazards, or, without high ground, retreat from them (Connell 2015b). An additional problem is that of water shortages, where lenses are under increased pressure and rainfall is intermittent. The 'transport stranglehold' has been a constraint to development, with the rise of container shipping and the decline of the copra trade, resulting in ships simply bypassing many atoll islands, so that exporting and importing goods is difficult and even relief supplies are inaccessible. Air services have likewise bypassed these islands and often failed economically, because of low and irregular volumes of passengers and freight, high maintenance and fuel costs and metropolitan competition. The multiple problems of development in Commonwealth Pacific small states are thus multiplied further in the atoll states, and emphasise the recourse to migration.

Kiribati and Tuvalu, formerly the British colony of the Gilbert and Ellice Islands, have not had unconstrained migration outlets, such as that enjoyed by the other Pacific atoll states of Marshall Islands and Tokelau (to the United States and New Zealand, respectively). Kiribati and Tuvalu thus face significant development problems, having long being seen as 'islands on the poverty line' with weak economies, where the prospects of economic growth are exceptionally poor. These Commonwealth Pacific small states also have growing populations that are increasingly moving into the capital atolls of Tarawa and Funafuti.

However, Tuvalu, like other Polynesian states, has achieved a greater degree of permanent migration to New Zealand so that urban pressures are rather less in

Funafuti than in Tarawa. There urban problems have reached crisis proportions – a 'perfect storm' of economic problems that have been intensified by environmental changes and extreme pressure on scarce resources such as water (Storey and Hunter 2010). Extremely limited livelihoods, a long history of problematic population pressure on resources, very high unemployment rates, rising expectations and half a century of training for migration (as seamen, and belatedly seawomen) have focused expectations outwards.

The converse of the extremes of urbanisation in the atoll states is depopulation of the outer islands in itself a relatively new concept in the Pacific; as employment is not created, skilled workers are reluctant to be posted there and service delivery is limited (Connell 2013b). Almost every Pacific atoll, other than the urban centres of the atoll states, is losing population. The margins of every atoll state are contracting. In the atoll states, and on coral atolls more generally, migration is now part of the 'culture of migration' (Connell 2008) that contributes to a flow of remittances. Where migration opportunities are blocked, for whatever reason, then livelihoods are actually threatened, as in the case of the densely populated Carteret Islands in PNG (Connell 2016). The present and future of atolls and atoll states is of particular consequence in the region, because of the significance of economic challenges, but also because of the imminence of anticipated environmental threats to livelihoods, with ongoing climate change.

Indeed, atolls are most vulnerable to climate change, since they are small in area and low-lying, and populations are growing (especially in Kiribati), livelihoods are already limited, and the demand for migration is considerable. Livelihoods are likely to worsen and the demand for migration to increase. While atolls are ubiquitously at risk, for those atolls in high island countries, such as PNG and Solomon Islands, there are possible internal migration opportunities.

8.3 The impact of climate change

Small island states are some of the most vulnerable countries of the world to the adverse impacts of climate change, and the Pacific, and particularly the low-lying coral islands, is a particularly vulnerable region. Climate change is already disproportionately affecting the Pacific. Most islands are experiencing climate change impacts on communities, infrastructure, water supply, coastal and forest ecosystems, fisheries, agriculture, and human health. The consequences of sea level rise, sea temperature increases, ocean acidification, coral reef bleaching, altered rainfall patterns, and temperature rise will be increasingly felt. By 2050, mean temperatures in the Pacific islands are expected to increase by between 0.8 and 1.4°C and mean rainfall is also likely to increase slightly. Sea level rise is expected to be somewhat higher than the global average, in the range of 0.17 m to 0.38 m by 2050 (World Bank 2016a).

Some projected effects of climate change on the Pacific region include ocean warming, more frequent and more intense tropical cyclones, flash floods and droughts, which will have an impact on food production systems (Bell *et al.* 2016; World Bank 2016a). Storms and cyclones are likely to become a greater threat to islands as their intensity

increases and as they extend further beyond their usual climatic range (with Cyclone Pam in Vanuatu in 2015 and Cyclone Winston in Fiji in 2016 harmful precedents). Local food production is vital especially to those islands where the majority of people depend on subsistence agriculture for food security and sovereignty. Extended periods of drought and, on the other hand, loss of soil fertility and degradation as a result of increased precipitation, will negatively affect agriculture and food security. The impact on fisheries may be considerable as fisheries contribute significantly to GDP and subsistence livelihoods in many Commonwealth Pacific small states. More intense cyclones and a rise in sea surface temperatures will negatively impact inshore fisheries and food supply, especially in rural areas. This change is most likely to occur before significant changes to agriculture because of the mobility of marine species and the fragility of coral ecosystems, where bleaching has already occurred.

Climate change is expected to cause serious degradation of the coastal environment and natural resources on which many people depend, which will be accentuated where substantial 'coastal squeeze' has occurred and marine ecosystems are already degraded, as in low-lying coastal sites with inadequate environmental management, where flood problems are increasing. Low-lying urban areas, such as Funafuti and Tarawa, and also Nadi and Apia, are particularly at risk because of the existence of high-density, relatively poor migrant populations in low-lying, marginal coastal areas. Significant problems may be first experienced in the western Pacific where current sea level rise in fastest (Nunn 2013).

None of the Commonwealth Pacific small states will be exempt from the impact of climate change, which will adversely affect future livelihoods. Most are already vulnerable to coastal flooding and salinisation, especially where mangroves have been cleared. Higher rates of erosion and coastal land loss are expected as a consequence of projected increases in sea level. Once again, stresses will be most acute on coral atolls; a one metre rise in sea level would make the majority of land in the atoll states vulnerable to flooding, and the atoll states (and all individual atolls) offer no land where withdrawal is possible.

Climate change, coupled with current anthropogenic stresses, especially in urban areas, will compromise options for sustainable development. Water resources are extremely vulnerable, especially on atolls where lenses are more likely to be affected by saline intrusion, and will increase vulnerability, especially in urban areas (Storey and Hunter 2010; Connell 2013b). Reliance on rainfall increases the vulnerability of Pacific Island countries (PICs) to future change in distribution of rainfall. Climate models show that a 10 per cent reduction in average rainfall by 2050 is likely to correspond to a 20 per cent reduction in the size of freshwater lens on Tarawa (Australian Bureau of Meteorology and CSIRO 2014). Furthermore, a decline in the size of the islands, resulting from land loss accompanying sea level rise, is expected to reduce the volume of the freshwater lens on atolls, even rendering small islands effectively uninhabitable. By 2050, some small Pacific islands may well have disappeared.

Climate change has so far contributed to some limited changes in ecology rather than to new human settlement patterns, but as climate change continues on its present

trajectory it is likely to make the development and maintenance of sustainable livelihoods more difficult and increase the need and demand for migration and resettlement.

Continued rural-urban migration, especially from the outer islands of Tuvalu to the urban centres of Funafuti, has increased the vulnerability of these urban islands, as populations settle in marginal areas and physical changes (such as causeway construction and gravel mining) are made to the atolls, further threatening the 'natural' environment. Many such marginal areas have only been recently settled. In Kiribati, the combination of a relatively high population growth rate and steady rural-urban migration has substantially increased the extent of risk.

However, beyond atoll states, richer people often live at higher altitudes and poorer people on reclaimed (therefore at risk) land, as in, for example, Apia and Nuku'alofa. Recent urban migrants in these towns, as in Tarawa and Funafuti, are often in particularly flood-prone areas. This means that the poor are more likely to be at risk, yet the poor are less easily able to cope (including through the possession of skills that might be useful, or possession of land and other resources elsewhere, that may offer alternatives), while they are often ignored in consultation and policy formation.

8.3.1 Climate-induced migration

While migration in Commonwealth Pacific small states remains primarily an economic phenomenon, environmental factors may gradually become more significant, especially if changes become catastrophic. Even in atoll states an economic rationale underpins anticipated or existing migration (Shen and Gemenne 2011; Shen and Binns 2012; Connell 2013b; Corendea *et al.* 2015) and environmental degradation will simply enhance these factors. Hazards such as cyclones in Vanuatu in 2015 and Fiji in 2016 have proved recent catalysts for migration. Volcanic eruptions and tsunamis, as in the Solomon Islands in 2007 and Samoa in 2009, have had similar but more localised effects. Climate change, however, while stimulating more frequent and more intense cyclones, is likely to be a factor in contributing to slow onset migration.

Again, even in the atoll states, where livelihoods are difficult and vulnerability considerable, most people do not seek to migrate permanently or seek to migrate at all (Paton and Fairbairn-Dunlop 2010; Mortreux and Barnett 2009), hence numbers of potential migrants will continue to be much lower than national and island populations (unless the risk becomes very substantial). Many would prefer to move locally, if they have to, and would prefer to return if they could and few if any lose a sense of an island home. Migration and especially relocation are usually seen as responses of last resort (Corendea *et al*. 2015) Nonetheless, that 'last resort' may not be far distant in some places. Thus, the Kiribati Government has stressed that

> '*We can, as a nation make the decision to begin and step up discussions on the real possibility that the nation and its people will have to face relocation to another country in the near future*' (Government of Kiribati 2013)

Climate change and environmental degradation, associated with water scarcity and population growth, are likely to put new pressures on human mobility, and increase

the demand for migration and resettlement. Climate change will endanger livelihoods and potentially exacerbate political stability. That may in turn precipitate serious local and regional challenges to livelihoods and create instability and insecurity within and beyond the region, a challenge that has been long recognised (Connell 1993). The worst-case United Nations projections of climate disruption point to up to 150 million displaced people by 2050. Some of these are likely to be from the Pacific, but while the Pacific numbers will be significant in regional terms and for the atoll states particularly, at a global scale they will constitute a small percentage of all those displaced. That may weaken their ability to attract global interest and concern. For that reason, among others, small island states, especially in the Pacific, have taken the lead in international forums to combat climate change.

Furthermore, national governments in the Pacific lack the capacity to respond effectively to major disruptions. The capacity of developed countries and international aid organisations to respond is likely to be crucial but that will depend on complex governance and political issues in developed countries, especially those around the Pacific. This will demand policy solutions that cut across levels of governance and unite traditionally distinct fields such as diplomacy, development and security. It is difficult to distinguish people who have moved because of climate change, especially since people usually move for multiple reasons, and legal claims to environmental refugee status in New Zealand have thus far been rejected, but the probable greater role of environmental issues in migration will raise issues of ethics, human rights and responsibility.

8.3.2 Resettlement

Over the next three decades it is likely that the need for resettlement of some Commonwealth Pacific small states' populations from low-lying areas will become critical. Indeed, it is widely assumed that climate change and other environmental changes will make this essential and inevitable. Past resettlement schemes in the region provide unpromising precedents. Resettlement programmes have existed in the Pacific at least since the 1930s when people from the densely populated Gilbert Islands chain (Kiribati) were resettled in the Phoenix Islands, and later moved on to the Solomon Islands, and from Banaba[2] to Rabi (Fiji). These international movements, of people experiencing drought and reduced livelihoods, occurred within and between British possessions in colonial times. While the resettlement from Banaba has been relatively successful, since an 'empty' island without local claimants was available and at the time involved no more than about 1,000 people (Connell and Tabucanon 2015), 70 years later, uncertainty still reigns over land tenure (McAdam 2012). Subsequent resettlement after volcanic eruptions and tsunamis (and the forced migration from military and mine sites) have largely been unsuccessful (Connell 2012, 2013a; Fitzpatrick 2013; Donner 2015), with migrants seeking to return home, land disputes intensifying, friction occurring with nearby people and challenges in adapting to different ecological zones and cultures.

The case of Manam and the Carteret Islands in PNG, which have experienced what amount to rapid and slow onset environmental (and economic) changes respectively,

illustrate the typical problems of resettlement. The forced migration and 'temporary' resettlement of the Manam population after a volcanic eruption in 2004 and several attempts at resettlement of Carteret Islanders living at very high densities on a very small atoll, have proved unsuccessful. Efforts of resettlement in both cases have been thwarted by 'host' landowners, the impossibility of gaining adequate access to land and land rights and government inactivity, even after, in the case of the Carterets, half a century of attempts, and in the case of Manam, urgent needs. More than a decade after Manam was evacuated following volcanic eruption, most of the 10,000 Manam islanders remain in 'temporary care centres' with impoverished livelihoods (Connell and Lutkehaus 2016, 2017). While Manam Islanders were offered land 40 km inland, the site was difficult to access, relocation required significant cultural changes and there were no resources to develop the site. Such relative failures in resettlement raise questions of citizenship, ethics and morality and bode poorly for future resettlement needs.

Inability to resettle in national contexts raises issues of ambiguity, identity and citizenship. The problems experienced by quite small population groups moving short distances in similar cultural contexts are indicative of the potential future problems facing environmental migrants (Connell and Lutkehaus 2016). Settlers have been perceived as outsiders and rival claimants to valuable coastal resources. Although Kiribati has purchased a small island in Fiji, with a view to possible resettlement, the 'welcome' that might be attached to the migration of i-Kiribati is likely to be ambiguous. Moreover, resettlement is largely viewed as a form of surrender, whereby culture, land, history and ancestors are simultaneously abandoned, a situation to be avoided at almost all costs (Rudiak-Gould 2013). That in itself limits the response to resettlement needs.

Multiple factors explain the limited success or simply the lack of past relocations, centred on the political will to plan, finance and conduct relocation, land tenure traditions that prevent the lease or sale of land, and the increased value of coastal land. Landowners have been increasingly reluctant to cede land to others, however moral and worthy their claims, even when they shared kinship ties or exchange relationships, especially as their own populations and needs have grown. Neighbours are not necessarily friends. In the atoll states, despite the possibility of some relocation in Kiribati from the Tungaru chain to Kiritimati (a short-term and costly strategy at best), no land is available for long-term resettlement irrespective of land tenure. Significantly in most cases, even during volcanic eruptions, a significant proportion of people at risk do not want to leave their homes and their islands (Connell and Lutkehaus 2016). That has resulted in an ambiguity that counters effective resettlement planning.

Slow onset climate change offers the option of forward planning. However, as the experience of the Carteret Islands suggests, governments have other priorities and interests that discourage the development of challenging future resettlement plans. At the moment, without some significant political and cultural changes, there is little likelihood of effective resettlement within the Pacific region. In the Solomon Islands, while the Provincial Government of Malaita has offered land to the approximately

2,000 people of the two atolls of Ontong Java and Sikaiana, both of which have expressed a wish for relocation to a higher island, Malaita has little 'spare' land and there are significant cultural differences. The offer has yet to be tested. The Carteret Islands and Manam are problematic precursors for the future of resettlement in the region.

When environmental pressures become more challenging it is likely that solutions will have to be found outside the region. That too raises problems. In the 1950s, after phosphate mining had degraded the island, Australia offered Nauru the possibility of settling on an island off the Australian coast, and effectively having an island to themselves, much as had occurred with the rather smaller population of Banaba, on the similar assumption that their island would become as uninhabitable as had Banaba. The option was eventually rejected by the Nauruans, at a time when their national income was substantial and they feared a loss of identity and culture (Tabucanon and Opeskin 2011). At much the same time, New Zealand embarked on an ambitious scheme to resettle the population of one of its Pacific territories, Tokelau, which was then experiencing cyclones and overcrowding, and half the population did move to New Zealand (Wessen *et al.* 1992). While these cases may be seen as a precedent for the future of island states and communities facing serious environmental threats, it now seems very unlikely (despite the Kiribati purchase of an island in Fiji), that such offers and programmes would be repeated, given the global context.

Elsewhere in the world current migration and displacement linked to climate change are primarily internal, with people moving within their own countries, and the people affected mostly remaining the responsibility of their existing country, since international moves tend to be costly, risky and require advance planning. Such small-scale moves have occurred in Fiji, and elsewhere, after localised environmental changes. As populations and pressure on land increases, that will often not be possible.

Where people have crossed borders as a result of climate change, as in parts of Africa, they usually move to neighbouring countries. That too will rarely be possible in the Pacific. On a small scale Niue, where the population is declining, has encouraged migration from Tuvalu and one village in Niue now has a small Tuvaluan population. It is unlikely that this could be replicated there or elsewhere in the region on a larger scale, as land values increase, despite it being a model, albeit limited, of interregional co-operation. National governance regarding environmental migration is also nascent at best.

Finally, atoll states have attempted to reclaim land for residential use. This is extremely expensive. Only the expansion of Ebeye in the Marshall Islands is likely to provide a significant stock of land, but at a cost that would not be feasible in the Commonwealth Pacific atoll states. Such geoengineering 'solutions' are unlikely to be of utility to cope with climate change displacement (and the very small-scale reclamations that do exist have often shifted erosion problems elsewhere). Any prospect of significant geoengineering in atolls is likely to be quickly ruled out because of the high costs on low-lying sinuous atolls, and even some 'soft' options, such as mangrove planting and beach nourishment, are unlikely to be successful.

8.4 Key responses and opportunities

Demand for migration is likely to become more important in the future for a combination of social, economic and environmental reasons, including climate change. It will therefore be necessary for Commonwealth Pacific small states to maintain and develop strategies that benefit most effectively from all opportunities for migration, and to seek out other possible opportunities, especially in a context where developed countries have become less than enthusiastic about most forms of immigration, and especially those of refugees and the unskilled.

8.4.1 Skilled migration

Acquiring marketable skills has played a valuable role in enabling migrants to gain better jobs. The atoll states of Tuvalu and Kiribati are unusual in their long-established policy of training workers for migration since the 1960s as 'seafarers', initially men and subsequently also women. Fiji and Vanuatu also train workers as seafarers. That has been the start of greater interest in and a wider process of training people for migration to achieve 'migration with dignity', that is employment in occupations which enable some degree of self-esteem and higher incomes than in low status, low income, entry-level positions, and are also likely to offer some permanency and prospects and enable a more substantial flow of remittances.

Most Commonwealth Pacific small states have given increased attention to training workers for employment either overseas or at home and Technical and Vocational Education and Training has been upgraded in several countries (such as Kiribati) in recognition of the need for more skills. Nonetheless most countries experience a shortage of various skills for immediate national needs. Improving the quality of training in PICs both enables local employment and offers internationally recognised qualifications that would enable access to additional skilled labour market opportunities in Australia, New Zealand and also elsewhere. There have been at least two new initiatives in the past decade (beyond marine training initiatives), such as the multinational Australia-Pacific Technical College (APTC) and the Kiribati Australia Nursing Initiative (KANI).

APTC has branches in Fiji, Samoa, Vanuatu, PNG and Solomon Islands (and links from Kiribati and Tonga), assisting Pacific island students to gain Australian skills and qualifications in a variety of trade areas. While ostensibly the programme upgrades local skills, an international qualification enables graduates to migrate more easily. Workers with such qualifications are likely to be attractive to overseas employers, although in the first few years almost all the graduates remained in their home countries.

KANI is a sectoral training scheme, where i-Kiribati nurses have been trained in Australia, principally to remain there and generate remittances rather than transfer superior skills to Kiribati. The programme was a response to Kiribati's concerns about climate change, youth unemployment and the need to give i-Kiribati the opportunity to gain internationally recognised qualifications. KANI has proved an extremely expensive programme, with doubtful benefits other than for the graduates, and it

is unlikely that such schemes will be repeated. Beyond the seafarer schemes such training programmes have been valuable yet costly, and have yet to contribute to migration with dignity – although interest in skilled migration is considerable.

Significant labour shortages exist in both Australia and New Zealand (and Japan, the United Kingdom and other metropolitan countries) for such jobs as nurses, carers, and in the hospitality industry. All the available evidence suggests that demand in these sectors will continue to grow and will not be met by domestic workers, as in Australia (e.g. Negin *et al*. 2016). Many Pacific islanders have already taken up such employment at home or abroad, and the expansion of short-term and long-term employment for Pacific islanders in these areas would be extremely beneficial. A strong case has been made for this in New Zealand (Callister *et al*. 2009), and the case is equally strong elsewhere, at least in Australia. Real gains exist in opening up the caring and hospitality industries to migrant workers from the Commonwealth Pacific small states.

The focus on international migration from the Pacific has hitherto primarily centred on New Zealand and Australia (and to a much lesser extent the United States). Canada has had a limited history of Pacific regional migration, almost exclusively from Fiji. Increasingly other countries are becoming involved in the Pacific region and several of these – notably Japan (where there is a small Pacific migrant flow), Taiwan, Korea and Malaysia are countries where labour opportunities exist. These might be investigated, despite competition in those labour markets, rather than maintain the present two- or three-country focus. Likewise, there are even possible opportunities within the Pacific region. The Commonwealth of the Northern Marianas employs migrant labour, mainly from Asia, in employment sectors ranging from agriculture, through hospitality to the casino industry. It might be possible for governments of countries like Nauru and Kiribati, fellow Micronesians, to negotiate for some of those employment opportunities to be reserved for them. There may therefore be more scope than is usually assumed for mobility within the Pacific region.

In both sending and receiving countries this raises ethical questions over how to focus opportunities on the most 'deserving' – countries, people and places—in circumstances where demand for migration is considerable and migration opportunities have often shifted towards the better placed, as in temporary labour migration from Vanuatu. It also raises 'management' questions about whether people from places experiencing economic and/or environmental stress, such as climate change, are necessarily well placed to respond to and contribute to such opportunities. Would particular training regimes need to be put in place? Why should potential recipient countries give priority to the needs of Pacific island countries? At the same time, it is apparent that not all migrant employment opportunities are necessarily particularly attractive, notably some parts of the international fishing industry where labour exploitation is rife. Seeking to obtain overseas employment should not become a 'race to the bottom'.

In addition, the loss of skilled workers has raised questions about whether migration constitutes a brain drain of unacceptable proportions that hampers national development. Small states lose disproportionately more skills than larger states; they are more successful at producing skilled workers but less successful in retaining

them. Losses of skilled labour have become serious in several Commonwealth Pacific small states, but perhaps especially in some of the smallest, despite their needing few skilled workers, paradoxically because of the challenge of recruiting and training very small numbers. Additionally, skilled workers are often frustrated with limited promotion opportunities at home (inevitably restricted in small PICs), inadequate access to technology, materials and further training, and a perceived lack of recognition (Connell 2009, 2014). Ironically, many migrants become part of a 'brain loss' or 'brain waste' because their qualifications, despite gaining them entry, are deemed inadequate for employment in the destination: a lost investment in human capital that has been particularly true in the PICs, with the 'loss' of nurses who become carers in destination countries – a poor labour market outcome. Skilled migration is unlikely to decrease, given worsening metropolitan skilled worker shortages in the 'standard' destinations, and increased shortages in newer, more distant markets. Limited return migration has not remedied this problem and remittances may not always compensate for skill drains.

8.4.2 Seasonal worker schemes

In the past decade a number of small-scale temporary worker migration schemes have been introduced in the Pacific region, between Pacific island countries and Australia and New Zealand. Such schemes have been seen as potential prototypes for other schemes and for programmes that might be effective in terms of addressing the need for migration as adaptation in the face of short-term hazards and slow onset climate change.

Existing schemes

Seasonal worker schemes in the Pacific were introduced in New Zealand in the 1960s, to give opportunities to Pacific islanders to work for short periods in agriculture and provide mainly harvest labour to farmers. However New Zealand faced substantial overstayer problems and the schemes were short-lived (Macpherson 1981). Loosely modelled on the Caribbean-Canada scheme, and encouraged by the World Bank (World Bank 2006), the Recognised Seasonal Employer (RSE) scheme began in New Zealand in 2007 and was followed in 2008 by a smaller-scale Australian scheme, both centred on the employment of agricultural workers for up to seven months in a year, in such activities as fruit picking. New Zealand allows up to 9,500 migrant workers in a single year, and although Australia has no cap, numbers have been much lower.

New Zealand's RSE scheme has been largely regarded as a success, both for its role as a development initiative, and because access to income for Pacific islanders is the cornerstone of a 'triple win' scenario that benefits New Zealand, through filling labour shortages; benefits Pacific island countries, through the provision of employment for some of the population, and benefits the RSE workers themselves and their families. Australia has provided rather fewer places – partly because it is more fragmented geographically and institutionally than New Zealand - and there has been concern over wage rates, adequate accommodation and exploitation, but broadly similar outcomes have resulted. The overall benefits have been largely positive (Gibson *et al.*

2014), despite some social costs, and indicate that its expansion numerically and geographically would secure further comprehensive benefits.

Tonga and Vanuatu have taken greatest advantage of the scheme. In 2013-2014, both Vanuatu and Tonga had more than 3,000 workers out of a total of 8,000 in both destinations. By contrast, Tuvalu and Kiribati have only been marginally involved, disadvantaged by distance and transport costs, unfamiliarity and the difficulty of obtaining visa and passports, with potential workers lacking some basic skills, English language proficiency and the ability to develop workplace links necessary to smooth migration (Bedford and Bedford 2010). Likewise, PNG has only been involved in the Australian scheme. Although about 600 workers have gone to Australia from PNG, this is a trivial proportion of the national population. Nauruans are disadvantaged by having no agricultural skills or a relevant work ethic.

Take-up of the Australian Seasonal Worker Program (SWP) scheme is increasing but has been very slow. For the scheme to expand, the Australian Government would need to promote it more vigorously, and reduce the financial and compliance costs. Most growers rely mainly on backpackers, whose numbers increased significantly in the 2000s, but have fallen substantially since 2012. Despite issues with exploitation and suspect labour hire practices for foreign workers, Australia expanded the SWP early in 2016 to help deal with farm labour shortages.

There is scope for these types of schemes to be used more effectively by sending countries to ensure that they contribute to equity and give preference to workers from disadvantaged regions. Overall it has mainly benefited relatively small numbers of Pacific islanders but has provided real benefits to them whereas issues of equity and regional development remain.

Commonwealth Pacific small states have sought more opportunities under such temporary migration schemes (mainly in terms of increasing numbers but also through extension of the scheme to other employment categories). Fewer employment opportunities have been provided in Australia despite the agricultural sector being much larger there than in New Zealand. Nonetheless, policy changes in both destination countries would be required to give more opportunities to migrants from Commonwealth Pacific small states. Kiribati and Tuvalu would benefit especially from more access (beyond the present 1-5% of their populations) given downturn in demand for maritime labour (and limited alternative domestic employment).

The ability of agriculture in New Zealand and Australia to absorb additional numbers of Pacific seasonal workers is limited (though in both countries, and especially Australia, there are possibilities for expansion). Pacific seasonal workers can earn more in Australia than in New Zealand, hence there is a preference for Australia. Wages in agriculture are low (at least by New Zealand and Australian standards), workers have been exploited, there has been resistance to union involvement to improve the status and circumstances of migrant employment, and, most recently, Australia has given greater preference to backpackers.

Underpinning short-term issues is the wider issue of whether temporary migration (even with return) is a real contribution to development in Commonwealth Pacific

small states or whether it is a substitute for more inclusive, stable and long-term migration opportunities that may be much more beneficial. Moreover, over time the very slowly increasing numbers, and their concentration in particular places, indicates that the much-vaunted win-win may be becoming rather more narrow. Ensuring that the schemes continue to provide wide-ranging benefits, which will support their further extension in time, space and sector, will be a considerable challenge. However, the convening of an inaugural Pacific Labour Mobility Annual Meeting in 2016, under the aegis of the Pacific Islands Forum Secretariat, is a welcome development that has the potential to market workers more effectively, ensure that employment conditions are not exploitative, seek out new opportunities, and monitor the overall effectiveness of existing and future schemes.

Potential schemes

Both in New Zealand and Australia, there has been extensive discussion of the potential for extending seasonal worker schemes into other sectors of the economy (and other agricultural sectors), and discussions have generally centred on caring, tourism and mining. In New Zealand particularly this has also involved the fishing industry.

A long history has accompanied the possibility of increased numbers of Pacific island (and other) migrants being involved in care giving (Callister *et al*. 2009) at a time when the unsatisfied demand for caregivers is steadily increasing and a high proportion of all jobs in caring are held by new migrants from a range of 'non-traditional' source countries (Negin *et al*. 2016; see also World Bank 2016b). It is highly likely that migrants from Commonwealth Pacific small states will enter this sector in significant numbers in future years.

Currently, Australia has a significant labour shortage in the hospitality industry (which is expected to increase to 120,000 by the end of the decade), partly because of the decline in working holiday visas. Part of that shortage is in the Northern Territory which has the lowest unemployment rate in Australia, and which decided to introduce a two-year 'microstate visa', which would create jobs for Pacific islanders in a region where Australia has sought to develop agriculture and other activities oriented to an Asian market. The visa will provide some additional employment opportunities in lower-skilled jobs through a five-year pilot programme to provide up to 250 citizens (around 50 per year) from Kiribati, Nauru and Tuvalu, the three 'orphan microstates'. These will centre on non-seasonal occupations in tourism/hospitality and age care. A year after its initiation there had been no evidence of islanders being able to take up any of these new positions, but both tourism and caregiving may provide real opportunities.

Kiribati and Tuvalu are pilot countries in New Zealand for skilled employment opportunities in the fisheries sector. Numbers had not been decided on as of mid-2016, while requests from Vanuatu to participate had been rejected, indicating that numbers were likely to be small. Likewise, there has been previous consideration of the employment of Pacific islanders in the Australian fishing industry (Connell 2015c), but it has never proceeded to policy formation. In the maritime context, cruise ships

briefly provided employment opportunities for about 120 I-Kiribati women, between 2004 and 2012. Once again numbers were small and management was challenging (Kagan 2016). In such circumstances the World Bank has recommended that both Australia and New Zealand could provide open-access migration for Kiribati and Tuvalu, because of the particular disadvantages of those two countries and the likelihood that numbers would be quite small (World Bank 2016b).

Small numbers and administrative problems are indicative of the constant underlying structural problems for small, remote nations engaging with distant and uncertain labour markets. A further difficulty is that, unlike agricultural employment, work in most such activities is not seasonal (and thus may result in permanent employment, hence the hesitation of potential destination countries), requires more skills beyond those currently held by most Pacific islanders, and other larger countries are better placed to compete. In every case, Pacific islanders are likely to face competition from others, mainly from Asia (or those on working holiday visas) with relevant training, skills and experience, and in rather larger numbers. There is no particular reason why destination governments or employers would necessarily wish to give priority to Pacific islanders.

Pacific island countries have also sought to broaden the scope of the regional trade agreement, Pacific Agreement on Closer Economic Relations (PACER Plus) that is being negotiated in the region, to include arrangements for the greater regional mobility of more skilled labour, especially to New Zealand and Australia. However, improved mobility of skilled and semi-skilled workers has largely been resisted by potential destination countries. In addition, a brain drain would be a possible outcome of significant relaxation of constraints on migration, which might have negative impacts. That raises wider questions over the benefits of scaling up temporary employment opportunities, for more people, in more skilled categories and for longer periods, and in new labour markets. Yet real options remain scarce, numbers are small and most migration remains voluntary through family reunions so that most remittances come from established migrants (despite the substantial one-off earnings of seasonal workers). Employment opportunities are scarce, require skills, and are particularly difficult to access from more remote Commonwealth Pacific small states.

8.5 Key issues and challenges

Underpinning new challenges that will emerge from shifts in global and local economies, and environmental changes brought on by climate change, are broader issues concerning the present relationship between migration and development. A broad policy debate concerns the role of international migration, and social and economic remittances, in contributing to development, and centres on the extent to which migration can be considered the most effective means of reducing poverty and inequality, coping with environmental threats and stimulating sustainable development. Policy discussion in richer countries on measures to address issues of poverty and inequality in poor countries remains focused on foreign aid programmes, with virtually no discussion of how immigration policies might play an important role in poverty alleviation and development. An exception has been the ongoing

policy discussion of guest worker schemes in Australia and New Zealand and their potential role in the promotion of development in the migrant-sending countries, in terms of both the associated remittance flows and human capital gains (e.g. Gibson *et al*. 2014). Broader policy debates are largely absent in the region but they will be critical as climate change and global economic shifts occur and the need to move towards the Sustainable Development Goals becomes more crucial.

Creating national economies that offer secure and pleasant livelihoods, which reduce the interest in and need for migration, will be invaluable though difficult. Despite the fact that there is enthusiastic competition for the lottery schemes that New Zealand runs for potential migrants, and it is far in excess of the opportunities, in the end most people actually prefer to remain in their home islands (even in small islands like the Carteret Islands and Manam). Ensuring that livelihoods are generated that will enable them to do that, and even dampen demand for migration, are now critical but will be a major challenge. Adequate service delivery is a priority and urban planning and management are crucial.

In contrast to the situation in developed countries, promotion of emigration of workers from developing countries has become an important policy issue for governments. Several large Asian countries, such as the Philippines and Bangladesh, have preceded Pacific island countries in marketing labour, and negotiating international agreements for labour export to rich countries. In every case this is primarily designed to increase the flow of remittances, but raises questions over whether people are more valued as migrants or as citizens and more basic questions about the use of remittances and the alternatives to a focus on migration. The politics, philosophy and economics of migration are inseparable, and emphasise how migration opportunities are significantly controlled in destination states and how Pacific island countries are increasingly concerned about securing better migration prospects. Migration is now increasingly about political negotiations as much as individual and household aspirations.

Even discussion of the mechanics of migration and remittances has been limited in the region, and has tended to be directed by outside agencies. It is necessary, as migration may become even more critical, that Commonwealth Pacific small states are more directly involved. Recent decades have seen many states pursue closer relations with migrant groups and allocate them various rights, in a bid to derive economic and political benefits from them, both of skills and resources - one component of 'diaspora strategies' (Gamlen 2012). However, outside New Zealand dependencies, migrants from Commonwealth Pacific small states have largely ignored the development of policies that might better be directed towards the increased facilitation of and returns on remittances, through various financial policies or simply facilitating technological innovations that reduce remittance costs, including transfers via mobile phones, now in widespread use. More formally engaging with and supporting migrants is invaluable, but is a major philosophical and political challenge.

While many countries are grappling with a hierarchy of needs that puts climate risk close to the bottom and prioritises immediate economic issues, the Nansen Initiative was launched in 2012 to seek to build a consensus among states on how to address and manage population displacement in the context of environmental

change from either short-term events or slow onset disasters. A set of principles was developed that focused on the need for sophisticated knowledge, the respective roles and responsibilities of stakeholders (that included states, communities, civil society and the private sector) and the need for solutions that were coherent and respected international law. These principles envisaged the involvement of those most at risk, centred on adaptation as close as possible to the 'home' area and sought to stress humanitarian principles. That has been developed further by the Pacific Islands Forum Secretariat initiating a Pacific Network on Climate Change Migration, Displacement and Resettlement to co-ordinate policy advice. That is a promising innovation that is likely to be of increasing value.

None of the Commonwealth Pacific small states have developed good procedures for internal relocation, including dealing with land issues, and most 'forced' internal migrants, such as the Manam Islanders, are at some disadvantage. Indeed, in most of the countries, it is not clear which government agencies might be responsible for relocation and resettlement of migrants displaced by environmental change. Usually this is seen as the scope of a 'disasters agency' if there is one (as in PNG) but such agencies are often underfunded, unable to be proactive, and compete with other national and provincial agencies and interests (again, as in PNG).

Land issues have constrained internal migration and resettlement throughout the Pacific region, and access to land is more difficult now than at any time in the past (other than by large state interests for commercial purposes). Only Fiji offers some resettlement opportunities. Established local, regional and transnational networks ease processes of migration and settlement. Slow and steady migration and resettlement, the ability of the people themselves to participate in decision-making, the possibility of some people remaining at home and, in the end, the greater capacity of local people to resist displacement and mitigate environmental change, the greater the chance of success. Yet there is always a danger of being too slow. Time and timing are of the essence.

The increasingly permanent international migration of people from Commonwealth Pacific small states, including some from vulnerable communities, to New Zealand, the United States and to a lesser extent Australia, has largely been beneficial for the migrants and for the countries. That effectively stabilised populations, and reduced worsening environmental pressures in several Commonwealth Pacific small states, while remittances have contributed to development and some reduction of poverty. The countries that have benefited least from this are Kiribati and Nauru. For Kiribati, despite training provided for migration as maritime labour or as nurses, there are relatively few i-Kiribati permanently overseas that would encourage permanent migration. In Nauru, training has been largely absent and there are even fewer Nauruans overseas. The recent introduction of the 'microstates visa' in northern Australia heralds a welcome development that might be extended over time and into a range of labour market activities. That there is some flexibility in migration systems is crucial and welcome.

Temporary guest worker migration has provided employment opportunities for up to around 10,000 workers per year, but these opportunities have been unevenly

distributed. Once again Kiribati, and Tuvalu, have been poorly placed to benefit from them. Vanuatu, despite no recent history of international migration, is one of the countries to have benefited most. On a regional scale, since most migration between Pacific island countries and metropolitan states has favoured some Polynesian states (Samoa and Tonga) and, more generally, states with colonial connections to New Zealand and the United States, migration tends to proceed from inequality and contribute further to inequality.

Migration from the Commonwealth Pacific small states may also have been beneficial for the metropolitan destination countries, especially in terms of the migrants filling vacancies in labour markets. It is crucial to emphasise this in circumstances where new opportunities are being sought. Australia and New Zealand remain the most significant and most preferred migration destinations, yet neither country has a vibrant economy that can offer unlimited opportunities for potential new migrants, especially as they move towards more skilled employment structures, related to service industries, while potential migrants from the Pacific are not much more likely to be skilled. Likewise, the global economy is entering into a period of slow growth, hence some of the current problems in Europe regarding perceptions of migration. Future labour markets will also be increasingly skilled and it may be that Pacific islanders will constantly lag in their ability to acquire the skills to take up such positions. Other than in the health sector (which partly explains interest in taking up training and employment in this area), and despite new initiatives in training programmes in the region, skills are still likely to be 'behind' those that are required in rich world countries. To circumvent this, additional emphasis must be placed on education and training within the Commonwealth Pacific small states.

In Australia particularly, engagement with the Pacific is fading and there has been a broadly populist reaction against refugees that has coincided with a downturn in the mining industry, and the relocation of undocumented migrants to Nauru and Manus (PNG) in contravention of United Nations principles. Neither Australia nor New Zealand perceive that responding to potential threats to livelihoods in the Pacific island region is a matter that demands immediate or urgent attention. It is apparent that other 'great powers', notably China, increasingly play a role in the Pacific region, but that role is most unlikely to result in migration links between the countries, other than minimal movement of students, and potentially an even more substantial flow of Chinese migrants, legal and illegal, into the Pacific region.

Moreover, should climate change continue to evolve in predicted ways, the greatest pressures on livelihoods will quite likely occur in such Asian deltas as those of Bangladesh and Vietnam, which will see global attention centre on the need of hundreds of millions of affected people, rather than the few in the Pacific. That will reduce the likelihood of potential refugee destination countries, such as Australia and New Zealand, giving any form of priority treatment to Pacific islanders. Canada and the United States, with a history of migration from the Pacific, are likely to be similarly focused elsewhere. While there are no obvious reasons why other states should not be involved as labour or settler recipients from Commonwealth Pacific small states, that seems somewhat unlikely on any significant scale. In the context of trade and

aid negotiations the Pacific Islands Forum might enter into discussions with Japan, Korea and Taiwan, to examine the possibility of developing some migration streams to these countries (see also World Bank 2016b). Canada may also offer potential for Commonwealth Pacific small states to be involved in short-term migration, alongside the Caribbean states. Once again, this emphasises that developing the national economies and developing national strategies to mitigate climate change are crucial.

8.5.1 Displacement and resettlement

Environmental problems are worsening in the Pacific and are accentuated by migration into the major urban centres, especially in the atoll states, and by climate change. Urgency, ethics, and the recognition of climate change migration as a 'human rights' issue, indicate the growing importance of developing schemes for people at risk of climate change displacement, much like the situation that already exists on a small scale in some coastal and low-lying areas of the region. Not only does this have obvious moral overtones but it is in various countries' interests in terms of international security (Wyett 2014). Progressive resettlement is necessary but this has so far proved impossible, as the example of the Carteret Islands indicates (Naser 2015; Connell 2016). It remains urgent and ethical to develop adequate policies, and all Commonwealth Pacific small states need to be proactive.

Displacements are necessarily traumatic and may entail impoverishment and (or through) landlessness, unemployment and loss of livelihoods, homelessness, marginalisation, increased morbidity and mortality, food insecurity, loss of access to common property resources, and social disarticulation (Cernea and McDowell 2000). Even just a few such reactions are problematic where island states have weak political economies and acute shortages of capital and skilled human resources to respond. By contrast, the connection between well-managed migration and a reduction in poverty is firmly established, hence migration can play a role in reducing the impacts of both environmental hazards and environmental degradation, and of poverty. It is crucial that migration be an adaptation strategy and not simply a belated response to hazard. Forced migration is inherently destabilising.

Short-distance relocation is preferable since relocation over longer distances raises greater problems of adjustment, especially over international borders, and across different legal regimes (and probably greater financial and social costs). It is particularly difficult to develop adequate legal support and protection for long-distance migrants. However, long-distance migration is currently being chosen by migrant Pacific households since it offers greater possibility of economic security. Even so, potential migrants are poorly informed about employment opportunities (hence problems of deskilling), even in countries like New Zealand, despite a large emigrant network and good communication with 'traditional' source countries like Tonga (Gibson *et al*. 2010). For more distant states, such disadvantages are multiplied considerably.

Migration is not a development panacea and a judicious combination of policies is needed to effectively maximise the benefits. This must be based on reciprocal relationships between countries and places of origin and destination, and would

almost certainly entail significant 'anchor populations' remaining at home as long as this is possible and believed desirable. It would be necessary therefore to create an attractive political, social and economic environment that encourages migrants to remain in contact and be involved in their home countries and islands, to return and to remit and, if feasible, to make investments there. Indeed, it remains true that despite the financial benefits, many Commonwealth Pacific small states are concerned about the social costs attached to a steady outflow of younger people to places like Australia and New Zealand, even when this is only temporary.

It will be more acceptable to societies in both source and destination countries if migration of increasing numbers of Pacific islanders can be managed through a co-ordinated approach to relieving population pressure on islands that may eventually become uninhabitable because of progressive environmental damage. Unfortunately, this comes at a time when opposition to migration in many developed countries is growing, yet proactive solutions are required. The onus for international resettlement unfortunately rests with distant and often reluctant governments (that include climate change sceptics), and coincides and conflicts with the need for a slower managed process and gradual flows, that would also enable migrants and their source countries to make their own decisions about movement in their own time, rather than being victims of a disaster beyond their control. Nonetheless, Commonwealth Pacific small states must manage economies and environments to support those already at risk, and especially manage urban environments and encourage development on outer islands, although reversing the 'urban tide' will be extremely difficult.

Appropriate adaptation policies, some oriented to migration, are beneficial for many reasons unrelated to climate change. This necessitates training, providing valuable skills, to cope at home and abroad, and 'soft technology' solutions such as planting mangroves - a mix of strategies that enable geographically, culturally and economically flexible and diversified livelihoods. Good environmental change mitigation projects focus on such fundamental needs as food and water security, coastal protection and reduction of poverty and inequality, but that requires holistic policy formation. Few of the Commonwealth Pacific small states' governments have been particularly responsive to the needs of the poor and trapped – rather seeing them as the 'problem'—but such people have often moved away from existing impoverished environments and are presently displaced into marginal urban environments. Their needs should be a priority. Minimising the urban 'coastal squeeze' is a related priority. Such adaptive strategies meet local needs, enable retention of culture and reduce the need for unnecessary and problematic migration. The decline of local knowledge has sometimes weakened the approach to developing local responses. Migration is only a secondary, less preferable and more difficult adaptation.

It is appropriate therefore that, before any consideration of 'secondary' mobility and migration strategies and policies, management policies begin 'at home' in order to reduce and mitigate the impacts of hazards and environmental degradation. Commonwealth Pacific small states must develop more effective urban management policies and programmes to minimise urban poverty and environmental degradation. In many cases this may mean actually establishing effective and properly funded urban

agencies that can co-ordinate the delivery of services, and more effective and regular delivery of services – especially health, education and banking – to outer islands to enable them to function more effectively. Developing outer island economies will be a more difficult challenge, and developing appropriate policies and putting them into practice is presently a pious hope. Equally, Commonwealth Pacific small states, where total fertility rates are consistently high, must re-examine the need for more effective population policies.

If such policies can succeed, migration strategies will be rather less urgent and numbers may be somewhat smaller. Furthermore, if population growth is slowed, economic and environmental pressures are reduced. Migration strategies must be linked in to a more broadly-based population policy, especially in Kiribati where the annual rate of population increase remains above 2 per cent. After all, both Kiribati and Tuvalu have fewer people recruited for overseas employment now than they did before the global financial crisis.

It is evident that Commonwealth Pacific small states must develop their own policies and legislation to facilitate particular kinds of migration; that is, from a sending country perspective. The Melanesian Pacific island countries especially need to prepare evacuation/settlement plans, especially for 'at risk' islands, since the response to hazards will be at least initially national, and their absence has hindered the development of new livelihoods for people exposed to sudden hazard events. Many disaster mitigation policies are weak and have little reference or relevance to human mobility.

Proactive environmental migration should be part of a strategy in response to climate change, natural disasters and other forms of environmental degradation and vulnerability. Migration might even directly slow the process of environmental degradation and improve the ability of those who stay to cope (and remittances might benefit this further). Tuvalu has benefited from migration rather more than Kiribati since remittances are greater and the population is growing more slowly. Schemes exist to both increase the flow of remittances (for example through mobile phones) and their utility through various banking schemes. These should be explored further.

More investment is required in skills formation within the Commonwealth Pacific small states to respond to domestic, regional and international demand for labour. Needs range from the statistical to the skills required in expanding hospitality programmes, and other emerging labour market activities. That process has been stimulated by the emergence of the APTC but it could well be expanded, and would be a valuable use of aid.

National development strategies, adequate data collection and training are a prelude to actual migration policies and programmes. Currently migration is increasingly directed southwards in the South Pacific, to New Zealand and Australia, and eastwards in the northern Pacific, to the United States. Policy changes that might enable what amounts to more permanent migration opportunities are also potentially extremely valuable, especially if Australia were to consider preferential migration arrangements for Pacific islanders along the lines of New Zealand's quota-based Pacific permanent

migration schemes. Numbers are small and would pose no problems for a large, multicultural country like Australia.

In these kinds of ways, migration and resettlement may allow for a 'migration with dignity' that will contribute to both sending and receiving countries, rather than a hasty, undignified process with few benefits: ideally early planning and delayed departure. However, contemporary 'departure' for at least temporary employment is important for the states that are most at risk. Achieving many of these objectives, and implementing the recommendations indicated below, will be both costly and challenge many established political systems and often limited political will. Future calamity would become an injustice if those who could have undertaken preventive action were neglectful or simply failed to try. States may well have to adapt, modify and develop laws on migration and settlement, and find new funding sources. That will involve not just states but the Council of Regional Organisations in the Pacific (CROP), led by the Pacific Islands Forum Secretariat, who have potentially a valuable role to play, possibly through the new Pacific Network on Climate Change Migration, Displacement and Resettlement. It is crucial that multidisciplinary research continues on the best means of resettlement, primarily focusing on where resettlement has already occurred, but also on where attempts have been thwarted. That will require work in both metropolitan and Pacific island states. It is essential that such research, planning, thinking and restructuring begin now. It is a moral obligation. Otherwise the settlement margins may fade further and populations be more concentrated in unmanageable urban areas.

8.5.2 Data for evidence-based policy

For adequate migration policy formation and practical implementation appropriate data are essential, although it is not data deficiencies that have slowed policy formation. Pacific island countries have generally been blessed with good centralised statistical and demographic services, hence data on population growth and, to a lesser extent, distribution, are both good and up to date, though there is reason to be concerned about accuracy in some places, especially PNG (where the last census produced a significant undercount and was undertaken on a de jure basis). However, statistics are rarely respected, and the need for adequate knowledge of the status of poverty, incomes and livelihoods, and the role of the informal employment sector, is not always well understood. Household income and expenditure surveys need to be encouraged, and preferably standardised, throughout the Commonwealth Pacific small states, and it is essential that they have a spatial component so that the actual distribution of poverty, incomes and livelihoods, for example, can be better understood. In recent years very few studies have been undertaken of either informal settlements or outer islands, and the aspirations of their residents.

A particular concern, and corollary of this, is that the needs of the relatively poor and those displaced or potentially displaced in the region have rarely been afforded adequate attention. This is often a function of time, funds and human resources. Thus, many non-government and international organisations have focused on the Carteret Islands as a particularly urgent problem of 'environmental refugees' and

forced migration, but without ever visiting the islands or talking to the islanders. Indeed, for both Manam and the Carteret Islands, no basic data exist on the numbers of people who require resettlement. The distortions that have followed have posed critical problems in addressing the needs of impoverished islanders successfully, and have been unhelpful for notions of Pacific islander agency. Valuable studies of resettlement in the region are one distinct gap. Many are dated, slight and tendentious and are of inadequate utility to assess the problems and potential of resettlement, even as it become more important. On balance, despite some obvious gaps, a range of valuable data exists, but much is unknown to practitioners and policy-makers. In some contexts, there are no effective mechanisms and forums for exchanging and sharing information and practices; this is particularly evident in the context of urban issues. Even so, some countries are unwilling to collect and/or provide data in some significant areas, such as the local sources of migrants and national selection strategies for seasonal migrant workers. Nonetheless, there is more than enough data in most contexts, even if sometimes buried, for effective policy formation.

8.6 Remaining gaps: Looking to 2050

As is evident from previous sections there has been little commitment in the Pacific region and in the major destination countries to developing more effective migration policies that benefit Pacific islanders, whether these concern local resettlement (as, for example, in PNG) or international migration. Land and other issues have thwarted national policy formation within the Pacific, resettlement has never been accorded any priority (although that now appears to be changing in Fiji at least), while creating more viable rural livelihoods and mitigating the impacts of environmental change has been particularly difficult, especially in atoll states. The 'traditional' destination countries, especially Australia, have made only the most limited provision for Commonwealth Pacific small states, and have focused their migration programmes on skilled migration. Both Australia and New Zealand have made some special provision for the 'orphan states' of Nauru, Kiribati and Tuvalu, but taking up even these opportunities has yet to occur. Numbers and opportunities are few.

Without more effective policy formation and, even more important, its practice, poverty, unemployment, environmental degradation and livelihoods are all likely to worsen in the decades to come. Present directions suggest greater uneven development, especially in the fast-growing urban centres, provoking the tensions, crime and violence that have already occurred in some urban centres. Climate change will benefit no Pacific island states, and atolls and the atoll states will be particularly affected, but there is no prospect that present trends will slow, let alone be stopped. That will place particular pressure on agriculture, fisheries and food security, and therefore on two-thirds of the region's population, at a time of intense competition in international markets (Taylor *et al.* 2016; Rosegrant *et al.* 2016), and increase interest in migration. Throughout the region Pacific islanders are making their own decisions about migration, and either moving into already overstretched urban centres or moving overseas. Where international migration is particularly difficult, as in Kiribati and the Melanesian states, urban management is likely to become even

more serious. Migration must be viewed by policy-makers as a legitimate adaptation and resilience strategy whether by individuals, households or entire communities. The limited formal migration opportunities that presently exist again emphasise the need to secure more effective and balanced sustainable national development, but at the same time seek out new migration opportunities and expand old ones.

A quarter of a century ago when climate change was just beginning to be seen as a potential threat to low-lying Pacific islands, one geographer in an article entitled 'Earth's Empty Quarter' feared that at the end of the present century 'almost all the descendants of today's Polynesian or Micronesian islanders will live in Auckland, Sydney, San Francisco and Salt Lake City. Occasionally they may recall that their ancestors once lived on tiny Pacific islands, [now] lonely Pacific islands, set in an empty ocean' (Ward 1989: 245). While some islands have been depopulated in the last century, it is a gloomy prediction and it will take some effective policies and practices to ensure it does not happen, and that, in Melanesia especially, urban concentrations are not excessive.

The journey towards 2050 will be complicated and challenging. Disadvantaged by numerous factors, small island economies face problems the world over (Connell 2013a), and there is little evidence that Commonwealth Pacific small states are well-placed to benefit from global macroeconomic changes. The resurgence of neoliberalism, and 'retroliberalism' of the aid regime, involving a shift back towards economic growth as the principal objective of aid allocation and the parallel relegation of poverty reduction as the core target (Murray and Overton 2016), within a wider context of aid fatigue, evident in the stalled progress of PACER Plus, hinder regional development. Yet, orthodox prescriptions for economic growth have hitherto proved inadequate. Commodity prices are unlikely to increase significantly. This is happening at the same time, as global economic growth is slowing as Chinese growth also slows. Regional economic growth rates are unlikely to increase from presently low levels and PNG will be particularly disadvantaged unless it is able to achieve greater diversification. Moreover, regionally, Chinese economic incursions of unprecedented magnitude are becoming more widespread, directed at resource exploitation with little regard for either local employment or environmental considerations. Land grabs are alienating valuable land in PNG especially. Concerns are mounting over the too-rapid exploitation of regional fisheries, which will limit future economic growth and employment opportunities, and put further stress on achieving food security. Island states are moving away from sustainable futures.

Climate change will exacerbate existing vulnerabilities of small states with weak economies and infrastructure, and scarce skilled human resources, especially in the face of more violent hazard events. As recent cyclones in Vanuatu and Fiji have demonstrated, such cyclones take a considerable human toll, exact substantial economic and social costs, dislocate communities and put a substantial brake on economic development. On atolls, agriculture may take a year to be restored, and stress on fresh water is acute. Such storms are predicted to become even more intense. Climate change is thus increasingly likely to act as a tipping point, interacting with overcrowding – especially in marginal, hazard-prone urban areas – and environmental fragility, and centred on atolls and atoll states where high land is non-existent, policy

formation to achieve greater resilience is weak and development planning is poor. Nowhere else in the world are small island states facing greater threats.

Much therefore depends on the policies and practices of the metropolitan states adjoining the Pacific region, and especially New Zealand, Australia and the United States, the traditional established destinations of Pacific islander migrants. In each of these countries policies directed against migration are strengthening at the expense of more open borders and therefore at the expense of Pacific islanders. Triple wins are more difficult to achieve. It may be that such Asian states as Japan and Korea can be prevailed upon to offer migration opportunities, especially in the healthcare sector, but dealing with Japan's demographic implosion will require a complex migration strategy that minimises intercultural friction, in a country with very little ethnic and cultural diversity. However, overall, there is no evidence that any of the wealthier countries will offer more development–oriented migration opportunities to Pacific island states in the future. Everything therefore suggests that migration is likely to follow familiar corridors and with familiar outcomes, and that opportunities will not be increased. It will therefore be absolutely crucial that Commonwealth Pacific small states develop their own domestic development strategies, even in a context of increased globalisation.

8.7 Recommendations

Many recommendations are implicit in what has been analysed and discussed above, and many more have been made in related contexts (e.g. Campbell and Warrick 2014; Corendea *et al*. 2015; World Bank 2016a, 2016b), but it is useful to reiterate the key ones, and elaborate on others and where possible target them to appropriate agencies. At the same time, it is useful to recall that, other than where immediate problems of resettlement and relocation are required, policies presently exist but need to be turned into practice. Effective governance is crucial. Given the complex nature of the relationships between migration, climate change and socio-economic change, at various scales, a challenge for countries and the region as a whole is where best to focus, given the integrated nature of potential solutions. Actions are required in various places and at various scales but they must also be effectively integrated.

8.7.1 Regional action

In a context where responses to development needs through migration are likely to involve the metropolitan states on the fringes of the region, these states will have to be drawn into development and migration dialogues. The slow process towards the finalisation of PACER Plus indicated how difficult that is likely to be, especially for slow onset climate change issues. At least the most affected populations in the next decades are most likely to be in the thousands rather than millions. The more that such schemes are successful, the more they can pave the way for further migration, and reduce pressures on Pacific environments.

In the context of trade and aid negotiations, the Pacific Islands Forum should enter into discussions with Japan, Korea and Taiwan as priorities, to examine the possibility of developing migration streams to these countries. The Forum should also discuss with

Canada the potential for Pacific island countries to be involved in short-term migration, alongside the Caribbean states. It might still be possible to include within renewed PACER Plus negotiations the possibility of developing a scheme for the migration of carers to both Australia and New Zealand. However, the withdrawal of both Fiji and PNG from negotiations late in 2016 emphasises the difficulty of achieving agreement, and especially the reluctance of metropolitan nations to consider broadening migration options. In any event the Commonwealth Pacific small states are well placed to develop a carer migration strategy, but only when the opportunity arises.

As fellow Commonwealth and Pacific Islands Forum members, both New Zealand and Australia might prioritise the migration of people from Tuvalu and Kiribati (as New Zealand has done for fishermen) into the RSE and SWP schemes – since that meets both the probable reduction in poverty and the prioritisation of people moving from difficult environmental contexts. That might involve reducing travel costs. Given the limited familiarity of people from these countries with relevant agricultural activities it will be at least as important to develop opportunities outside the agricultural sector. Australia should also consider preferential migration arrangements for Pacific islanders along the lines of New Zealand's quota-based Pacific permanent migration schemes. Numbers are small and would pose no problems for a large, multicultural country like Australia. The Australian 'microstates visa' scheme needs to be evaluated within the next 12 months to examine its successes and failures and the extent to which it might be a model for other parts of Australia (perhaps especially Queensland), and New Zealand (and for other Commonwealth Pacific small states). Ideally, it might also work in Japan, the United States and elsewhere.

The Pacific has often been disadvantaged by being at the bottom of an 'international hierarchy' where international organisations in the region tend to be small, ineffective, plagued by lack of finance and rapid staff turnover, and/or part of a wider Asian region where policies that may be appropriate to Asia are assumed to be relevant to Pacific island countries. That has often disadvantaged policy formation and its practical implementation. In addition, at least in the area of migration and climate change, there are only a few initiatives and agencies concentrated on this area.

In 2015, the Pacific Islands Forum Secretariat set up the Pacific Network on Climate Change Migration, Displacement and Resettlement, which includes the Secretariat of the Pacific Regional Environment Program, United Nations Office for the Coordination of Humanitarian Affairs, United Nations Economic and Social Commission for Asia and the Pacific, UNDP, Pacific Islands Development Forum and the Pacific Conference of Churches. These agencies are involved in regional research and activity around climate and human mobility. The Secretariat of the Pacific Community (SPC) should also be included as they cover many related areas.

The International Organisation for Migration (IOM) has recently developed a regional presence and has a potentially highly important role to play in developing and monitoring resettlement schemes and in responding to the needs of those who experience forced migration in the years to come. That will necessitate developing a regional capacity, as IOM is now doing in PNG, to avoid dependence on experts who are unfamiliar with the region. The International Labour Organisation has

also recently developed an effective presence in working with Kiribati and Tuvalu to develop national migration plans. That is a valuable development and needs continued support to ensure a wider regional coverage. Such migration policies must be linked in to more broadly-based population policies. In this regard, the United Nations Population Fund (UNFPA) will play an important role. While UNFPA has focused on sexual health and domestic violence in recent years, as has the SPC, alongside HIV/AIDs, it would remain important for UNFPA to scale up policies and programmes in support of the unmet need for family planning.

To address issues of settlement, it would be invaluable for UN Habitat to have a more visible and effective presence in the region. Unfortunately, the Pacific office has recently closed. Therefore, there is presently no regional body that has the ability to strengthen and co-ordinate research, policies and practices on urbanisation and resettlement, at the local, national and international scale, to share experiences and strategies. If UN Habitat could be reinvigorated (or a CROP agency take over) it would be valuable to develop a project that, firstly, examined the various resettlement schemes in the region (e.g. Gilbertese in Solomon Islands, Vaitupuans in Kioa, etc.) to review the experiences of these projects—a remarkable gap in knowledge – and, secondly, combine this with a regional mission to source suitable areas within the region for future resettlement. The outcomes of the initiative could better prepare the region for possible settlement challenges, including those induced by climate change, as it heads to 2050.

8.7.2 National action

Most Commonwealth Pacific small states need to strengthen national capacity to deal with hazards and establish effective national organisations. How that is undertaken will vary between countries according to their capacity and their perception of problems. The Melanesian Pacific island countries especially have been found wanting in recent years and need to prepare evacuation/settlement plans since the response to hazards will be at least initially national, and their absence has hindered the development of new livelihoods for people exposed to sudden hazard events. Assumptions that displaced people can simply return later are erroneous and inadequate. Many disaster mitigation policies are weak and have little reference or relevance to human mobility.

A continued commitment is needed from all national governments to work towards local employment generation in the context of the SDGs, whether in tourism, agriculture or fisheries, and support research in related areas (such as salt-resistant plant species). Likewise, a continued commitment to good education, at all levels and in all regions, and training, remains essential for national needs and for the possibility of migration. More investment is required in skills formation within the Commonwealth Pacific small states to respond to domestic, regional and international demand for labour. That process has been stimulated by the emergence of the APTC but it could well be expanded, and would be a valuable use of aid. Countries must develop their own RSE and SWP priorities in terms of the selection of workers according to considerations of equity and risk. This is not currently seen as a priority and has disadvantaged potential workers from more remote impoverished areas.

While the onus for resettlement may lie elsewhere, it is crucial that Commonwealth Pacific small states take steps to manage economies and environments in order to support those already at risk and minimise the numbers of those who may be or become 'trapped' and unable to respond to environmental change, environmental hazards and economic shifts. Thus, countries must carefully manage urban environments, where many contemporary socio-economic problems are located, which may mean actually establishing effective and properly funded urban agencies where they are missing, involve such basic strategies as land use planning and land titling, and encourage development on outer islands where most urban migrants emanate from (and where response to hazard is usually less difficult than in densely populated urban centres), which will require more effective and regular delivery of services – especially health and education – to outer islands. Reversing the 'urban tide' and developing outer island economies will be difficult, but it must be persevered with.

Good environmental change mitigation projects in Commonwealth Pacific small states must focus on such fundamental needs as food and water security, coastal protection and reduction of poverty and inequality. Such adaptive strategies would meet local needs, enable retention of culture and reduce the need for unnecessary and problematic migration. However, that requires holistic policy formation and national governments should collaborate with relevant development partners to ensure an integrated policy approach.

Notes

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2 The entire population of Banaba was relocated in the 1940s to make way for phosphate mining; see Connell and Tabucanon, 2015.

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Chapter 9

Strengthening Communities and Economies through Sustainable Energy

Anthony Polack

9.1 Introduction[1]

Energy underpins the growth of every sector of a nation's economy. It is used, *inter alia,* for lighting, cooking, heating, cooling, pumping water, irrigating crops, preserving food and medicine, and transport. It is therefore a key resource in improving human development, food security, and alleviating poverty, emphasised in the 2030 Agenda on Sustainable Development through Sustainable Development Goal (SDG) 7 that aims to 'ensure access to affordable, reliable, sustainable and modern energy for all'. SDG 7 is closely related to SDG 9 (build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation) and SDG 13 (take urgent action to combat climate change and its impacts).[2] Meeting the energy goal is central to the achievement of most SDGs as energy is an input to most human endeavours.

Despite making only a negligible contribution to global greenhouse gas (GHG) emissions, estimated at 0.03 per cent of global emissions, the Pacific region is extremely vulnerable to the effects of climate change and natural disasters, as witnessed with Cyclone Pam in Vanuatu (2015) and Cyclone Winston in Fiji (2016). The early ratification of the Paris Agreement and preparation of nationally determined contributions (NDCs) has demonstrated the willingness of the people of the Pacific to lead the world by example in their readiness to implement solutions.[3]

This chapter focuses on the energy sectors of Fiji, Kiribati, Nauru, Papua New Guinea (PNG), Samoa, the Solomon Islands, Tonga, Tuvalu and Vanuatu – the Commonwealth Pacific small states.[4] Without access to an affordable, secure and clean energy supply, based on a strong foundation of energy efficiency and renewable energy, the people of the Commonwealth Pacific small states are likely to face severe consequences on their sustainable development.

The chapter is based on a desk review and is intended to stimulate discussion on possible long-term national and regional directions in the energy sector towards 2050. It is not intended to be a replacement for national and regional energy policies and strategies. The chapter outlines the context of the energy situation in the Commonwealth Pacific small states, before highlighting the common challenges and key regional and national responses. Remaining gaps and possible solutions are then discussed, followed by a discussion on the scenarios expected for 2050 before concluding with policy options that can help Commonwealth Pacific small states achieve sustainable energy security.

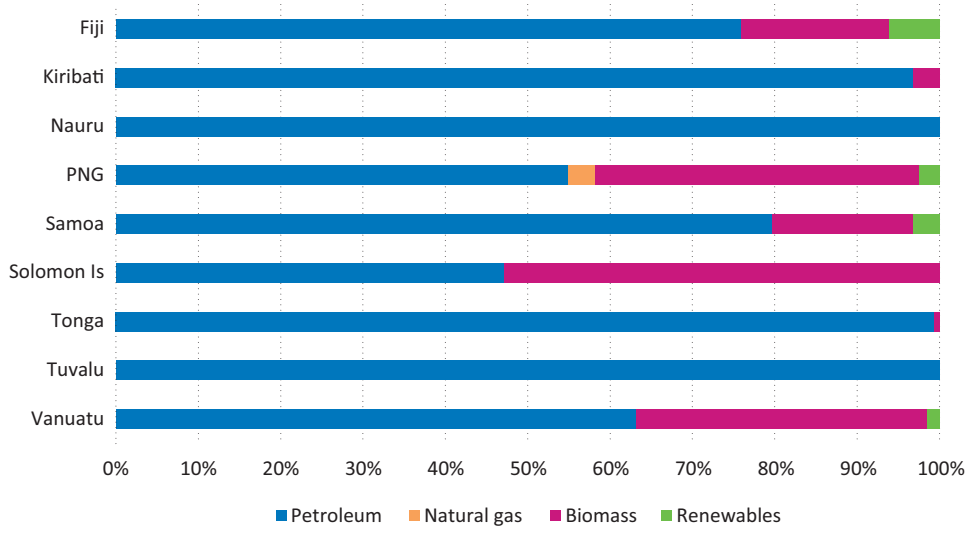
9.2 Context

The nine Commonwealth Pacific small states are spread across vast distances of the Pacific Ocean. Located in Melanesia (Fiji, PNG, Solomon Islands and Vanuatu), Micronesia (Kiribati and Nauru) and Polynesia (Samoa, Tonga and Tuvalu), they include a total exclusive economic zone (EEZ) of approximately 12.5 million km^2. They consist of atolls and volcanic islands from less than 3 metres above sea level to almost 5,000 metres above sea level and total land areas between, the smallest Nauru, 21 km^2 and, the largest PNG, 462,840 km^2. The populations of these countries range from 10,800 (Nauru) to more than 8 million people (PNG) for a total of some 10 million people, with densities as low as 18 people per km^2 in PNG to as high as 514 people per km^2 in Nauru.

The gross domestic product (GDP) of each country in 2015 ranged from US$38 million to US$17 billion, while GDP per capita is as low as US$1,258 in Kiribati to a high of US$10,741 in Nauru.[5] The countries rank between 90 and 158 on the United Nations Development Programme (UNDP) Human Development Index (HDI). Official development assistance (ODA) in 2014 ranged from US$22 million in Nauru to a high of US$681 million in PNG. As a proportion of GDP, Tuvalu is the most aid dependent at 91 per cent of GDP, whereas PNG's and Fiji's ODA is equivalent to only 4 and 2 per cent of GDP, respectively.

Commonwealth Pacific small states are largely dependent on imported petroleum products for energy production and consumption, accounting, on average, for 74 per cent of total energy supply in 2013. Kiribati and Tonga rely on petroleum for more than 95 per cent of their energy supply, while Nauru and Tuvalu rely completely on petroleum (Figure 9.1).

Figure 9.1 Energy supply (Terajoule), 2013



Source: United Nations Statistics Division (UNSD) 2016; Secretariat of the Pacific Community (SPC) 2012

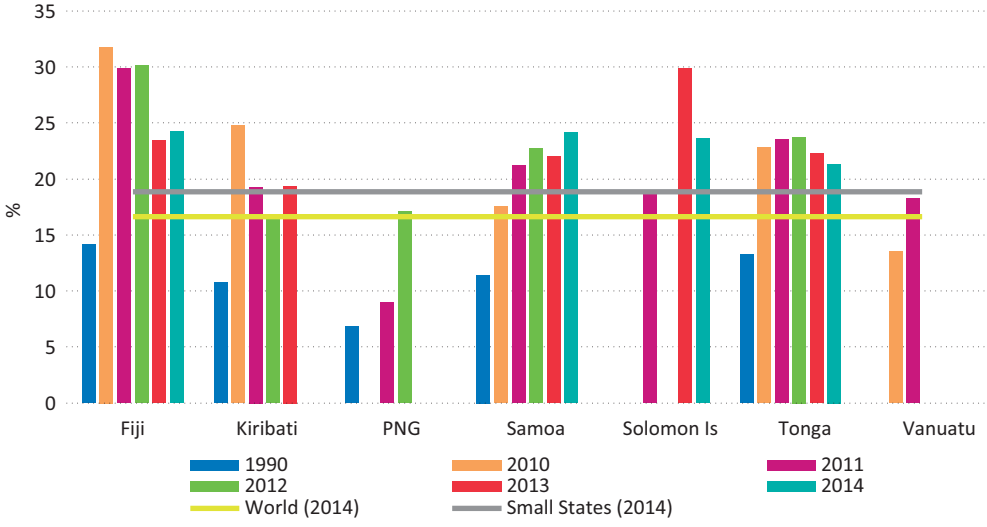
Fuel imports make up close to or more than a quarter of total merchandise imports for the majority of the Commonwealth Pacific small states; a higher percentage than the global and small states' levels recorded in 2014 (Figure 9.2). For all countries, fuel imports have risen steadily since 1990.

Energy consumption in the Commonwealth Pacific small states is split mostly between transport and electricity for power generation (Figure 9.3). It is estimated that transport accounts for about 70 per cent of fuel consumption, while electricity makes up about 20 per cent. The ratio of energy consumption for land transport as compared with sea transport is approximately 2:1. Sea transport is often the only transport for many small island communities, as many islands are too small for significant air and land transport. Energy consumption by the manufacturing sector is significant only for PNG (29%), Fiji (20%) and Samoa (10%). The remaining consumption of energy is likely to be biomass for cooking, fuel for cooking, lighting and heating water, and electricity production through individual diesel power generation.

Transport provides services that assist in every aspect of socio-economic development in the Pacific and dominates fuel consumption due to the large distances that must be travelled by air and sea and between nations and islands. Transport in the Pacific is mainly operated by the private sector and is used for moving people and goods for work, education, health and trade as well as evacuation and disaster assistance relief. The sector is beset by high costs due to a lack of economies of scale and powered mainly by fossil fuels as development of renewable energy alternatives is limited.

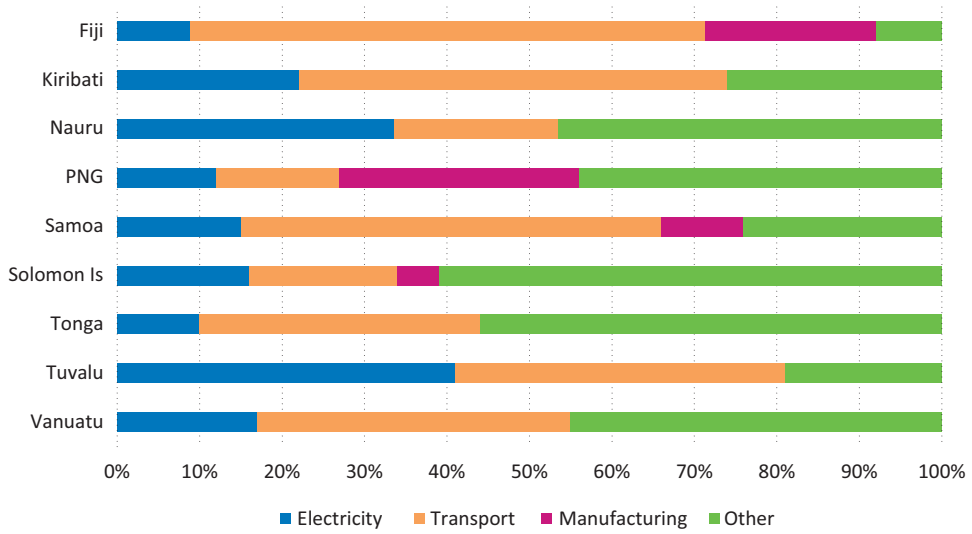
The electricity sector is the second highest consumer of fossil fuels. Most electricity grids are in urban areas and either serve a majority of the population on island atoll

Figure 9.2 Fuel imports (% of merchandise imports)



Note: Nauru and Tuvalu unavailable
Source: World Bank Development Indicators 2016

Figure 9.3 Energy consumption by sector*, 2013



Note: *Excludes international aviation and shipping but includes only some domestic shipping.
Source: United Nations Statistics Division (UNSD), 2016 except for Tuvalu, which was estimated from its second national communication to the United Nations Framework Convention on Climate Change (UNFCCC) on its GHG emissions

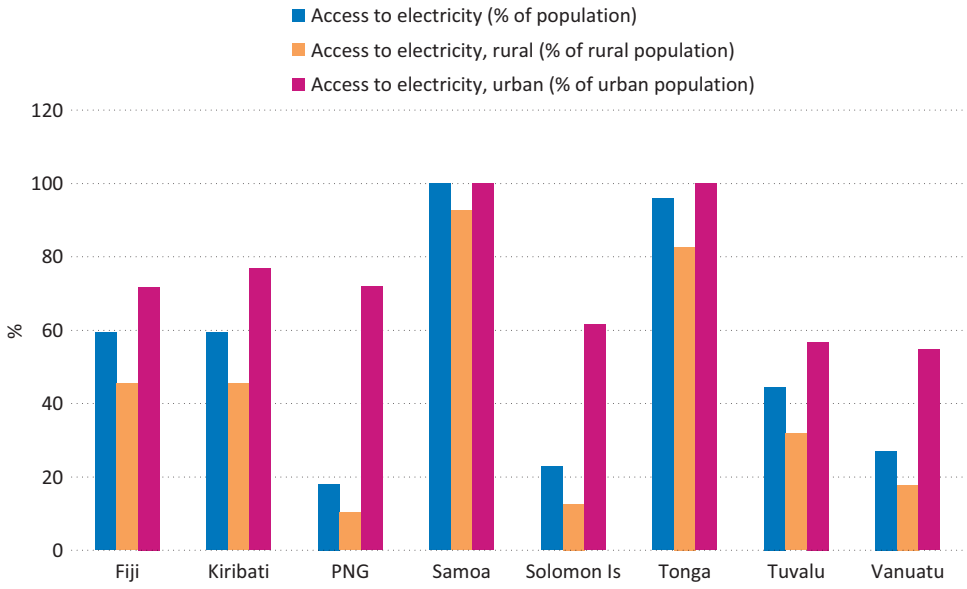
nations or only a small part of the population on larger volcanic islands where there are still large rural populations. The percentage of the population that has access to electricity ranges from 18 per cent in PNG to 100 per cent in Samoa (Figure 9.4). PNG, Solomon Islands and Vanuatu, which have 80 per cent or more of their populations living in rural areas, have relatively low levels of access to electricity (Figure 9.4).

The average residential electricity tariff in each country ranges from US$0.17 in Fiji to US$0.87 in the Solomon Islands (Figure 9.5).

Electricity tariffs can fluctuate from year to year depending on the proportion and cost of the petroleum used to generate the electricity and the proportion of other fuel sources in the fuel mix. A larger proportion of hydro power, for example in Fiji, is likely to reduce the electricity tariff, whereas a country that relies mostly on fossil fuels, such as Kiribati or Tuvalu, is more vulnerable to increasing oil prices. Another factor affecting the residential electricity tariff is whether it is subsidised through the Government budget, for example in Fiji, or using a cross subsidy from larger users of electricity, for example in Vanuatu. Each power utility in each country determines its tariffs differently. Some utilities have maximum demand and/or service charges (Fiji, PNG and Vanuatu) to ensure that larger users pay the appropriate proportion of the use of the grid and total cost of supply. Others (Fiji, Nauru, PNG, Samoa, Tuvalu and Vanuatu) have lifeline tariffs, which lowers the cost for a specified usage amount to assist with affordability of what is an essential service for low-income households.

Fiji, PNG and Samoa have the highest proportion of renewable energy generated electricity through hydro power, at 67, 32 and 25 per cent (IRENA 2013), respectively.

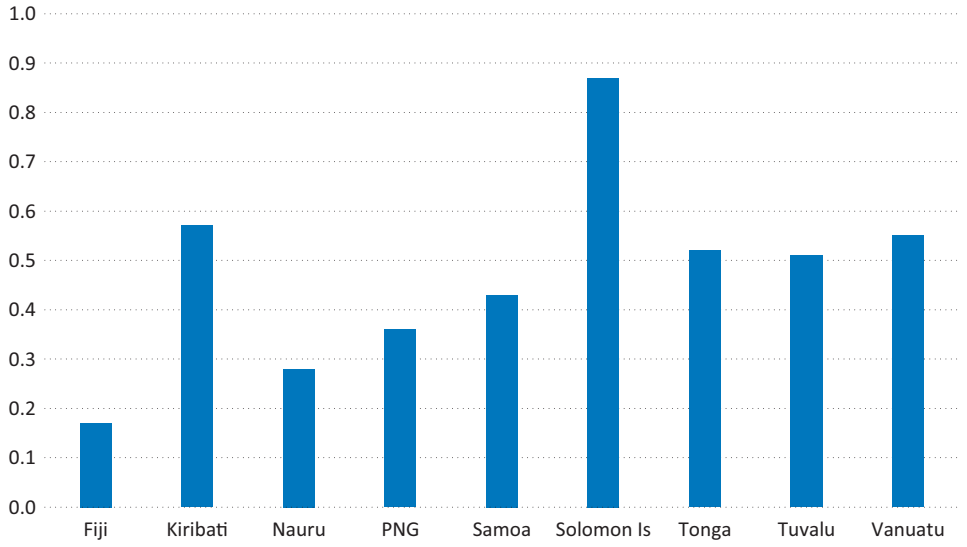
Figure 9.4 Access to electricity



Source: World Bank Development Indicators 2016.

Vanuatu relies on a combination of hydro power, wind and coconut oil, which makes up 25 per cent (IRENA 2013) of renewable electricity generation. All the other Commonwealth Pacific small states have renewable electricity generation rates of less than 5 per cent. Solar photovoltaic (PV) electricity generation is increasing in all countries. If biomass is harvested sustainably it can be considered a renewable

Figure 9.5 Average residential electricity tariffs US$/kWh



Source: SPC, 2016 (various years 2012–2013)

Table 9.1 Renewable energy targets

Country	Renewable energy target	Year
Fiji	90% electricity generated using renewable energy	2030
	25% renewable energy share in total energy consumption	2030
Kiribati	45% reduction in energy coming from fossil fuels for electricity generation (Tarawa)	2025
	60% reduction in energy, coming from fossil fuels for electricity generation (Kiritimati)	2025
	60% < renewable energy in rural public infrastructure (outer islands)	2025
	100% renewable energy for rural public and private institutions (outer islands)	2025
Nauru	50% grid electricity supplied from renewable energy sources	2020
PNG	100% carbon free electricity sector	2030
Samoa	100% renewable energy generated electricity	2017
	100% of renewable energy generated electricity maintained in light of growing electricity demand	2025
Solomon Is	50% use of renewable energy sources for power generation in urban and rural areas	2020
Tonga	50% of electricity generation via renewable energy	2020
	100% renewable energy in total electricity production	2030
Tuvalu	Zero GHG emissions from the electricity sector	2025
Vanuatu	100% renewable energy generated electricity	2030

Source: Collated by the author from national policy documents and NDCs

energy resource. However, most developments in renewable energy have been in technologies used to generate electricity.

Each Commonwealth Pacific small state has a national energy strategic and/or policy document that outlines their targets for increased renewable energy (Table 9.1). Some of these targets have been superseded by those stated in the NDCs for each country. These are generally ambitious targets designed to rapidly reduce the vulnerability to fossil fuel dependency and show leadership to the rest of the world in combating dangerous climate change. Only Samoa has included reference to the likelihood of continued growing electricity demand.

Energy conservation and efficiency can be more effective in reducing a country's vulnerability to high oil prices and use less investment than is required by renewable energy. However, measures to improve this area are lagging behind developments in renewable energy and are not featured as prominently in sectoral policy targets.

9.3 Common challenges

The Commonwealth Pacific small states face many common challenges in the energy sector that include energy security, people and geography, lack of information, lack of

institutional and technical capacity, transport and energy efficiency, electricity tariffs and supply, financing constraints, and a lack of gender perspectives.

9.3.1 Energy security and co-ordination

Ensuring a secure energy supply, including through co-ordination of various stakeholders, is made difficult by the remoteness of Pacific countries, small markets, distance from trading partners, long and fragmented supply chains that are vulnerable to disruption, lack of economies of scale, lack of competition, and their dependence on trade and aid. These issues increase the risks, and therefore also the costs, of providing goods, services and infrastructure. These costs, in turn, increase energy prices and hinder the goals of energy affordability and poverty alleviation.[6] Many of these challenges also impact on the ability of countries and development partners in the region to co-ordinate and work with each other to improve the situation.

Fossil fuel dependence means that the economies of the Commonwealth Pacific small states are exposed to fluctuating prices for fossil fuels that are linked to world oil prices. A UNDP Oil Price Vulnerability Index for 19 Asian and five Pacific island countries (Fiji, PNG, Samoa, Solomon Is and Vanuatu) showed that of the 13 most vulnerable countries, four were from the Pacific - Vanuatu was the most vulnerable, followed by the Solomon Islands, Samoa and then Fiji (UNDP 2007). This high oil price vulnerability can have flow-on effects that increase the cost of the fuel import bill, deplete foreign currency reserves[7], accelerate inflation, reduce economic growth, and increase the cost of transport and imported products. This was especially evident during 2008 when oil prices rose to almost US$150 per barrel, while, for example, Fiji's economy contracted by 2.5 per cent and its imports increased by almost 25 per cent in 2008 due to the higher cost of petroleum, and inflation rates in Kiribati soared to 18.6 per cent in 2008.[8] More recently, between July 2015 and July 2016, this pressure eased to where a barrel of oil was trading as low as almost US$25.

Overcoming this fossil fuel dependency is made difficult due to the limited indigenous sources of energy in Commonwealth Pacific small states. The only proven reserves of oil and natural gas are found in PNG and there are no known sources of coal in the region. Furthermore, not all the countries have access to the different types of renewable energy resources. Some have potential hydro power capacity (Fiji, PNG, Samoa, Solomon Islands and Vanuatu), but this can be affected by climate variability and drought. The availability of biomass may be limited, especially on atolls, and on volcanic islands, where the resource is plentiful, it can also be affected by climate change exacerbated drought. Some have wind resources but these may be too small to economically exploit as the closer to the equator, the less plentiful the wind resource (Kiribati, Nauru and Tuvalu). On the other hand, at times the wind is too strong for wind turbines due to storms and cyclones, making them vulnerable to damage and potentially difficult to insure. Good wind locations are also not necessarily near population centres and roads are needed for construction and maintenance access. With respect to geothermal energy, Fiji, PNG, Solomon Islands and Vanuatu have been identified as countries that could be conceivably powered by 100 per cent geothermal energy (Holm 2010). However, geothermal energy is a costly resource to extract and sources are not necessarily found near population centres.

9.3.2 People and geography

The population, growing rapidly in some countries (e.g. Kiribati, Solomon Islands and Vanuatu), is often widely dispersed across rural areas, islands and atolls or migrating from rural to high-density urban areas (the 'urban drift' to 'urban villages'), placing pressure on existing energy services and infrastructure and increasing the costs of expanding these services. Rural electrification also faces the difficulty and politics of providing services to rural areas when these rural areas are mostly governed from an urban area or capital city.

These challenges are exacerbated by geographical barriers, such as natural disasters (earthquakes, cyclones, volcanoes, tsunamis) and the increasing effects of climate change, i.e. sea level rise and the greater intensity of climate change related weather events, which make increasing access to energy and other essential services in rural areas costly and difficult. The existing energy infrastructure is also vulnerable to the climate, e.g. erosion and corrosion resulting from the harsh tropical climate, as is the supporting infrastructure, such as roads, ports, information and communications technology (ICT), and water, which are essential inputs to operate sustainable energy systems and underpin the energy supply chains that provide spare parts, maintenance personnel, and access to markets. In a recent example, the deterioration of the runway at Bauerfield Airport on Efate in Vanuatu negatively affected its tourism industry, with Air New Zealand, Qantas and Virgin airlines ceasing flights to the airport until the tarmac was repaired to a satisfactory standard.

Where there is available land to undertake energy projects, acquiring approval for use of this land is sometimes subject to land tenure issues, particularly in Melanesia. Resolving whether the land can be used and who receives payment may take several years or not be achieved at all. There are also competing priorities for land and water use. Land cannot be used for all purposes. If it is flooded to create reservoirs and dams for hydro power, irrigation or drinking water, then crops cannot be grown in that area for export or domestic consumption, or a wind or solar farm cannot be constructed, for example. If the water is used for hydro power, then it cannot be used for irrigation or as drinking water. The food-energy-water nexus is a key challenge to overcome.

9.3.3 Lack of information

In undertaking energy projects in the Commonwealth Pacific small states, there is often a lack of current data and statistics, or site-specific renewable energy resource information to adequately assess the viability of an energy project. Petroleum companies are not necessarily forthcoming with data related to the specific type of activity each type of fuel is used for. There has also been a history of overly ambitious and unrealistic renewable energy target setting, which has raised expectations and unfortunately largely gone unachieved, especially when targets are announced without underlying data or financing to support this ambition.

9.3.4 Institutional and technical capacity

In the energy sector, there is also a lack of technical and functional capacity, a 'brain drain' of qualified labour moving to higher wage economies, and the limited resources

that are available are often overexhausted. In addition, government agencies and regional institutions often lack budget funding and staffing to address challenges in the energy sector. SPC, which is the key regional development partner in the energy sector in the Pacific, has recently stated that it relies heavily on project funding and has tried too often to do too much for too many stakeholders (Islands Business/ PacNews 2016).

9.3.5 Electricity tariffs and supply

In most cases, electricity tariffs do not reflect the true cost of producing electricity. They may be kept artificially low for political reasons, which results in power utilities not recovering the full costs of production, meaning that there are insufficient funds to cover operation and maintenance expenses and the capital costs of replacing ageing infrastructure. Tariffs that are subsidised can foster a culture of overconsumption, which can lead to payment difficulties for consumers, especially when high oil prices result in higher tariffs.

There is a lack of legal and regulatory frameworks that allow for independent power producers (IPPs), both commercial and residential, to easily connect renewable energy to electricity grids. There is also a lack of standards and certification to ensure that only robust renewable energy equipment is installed in the Pacific. Cheap generic copies of brand-name products increase the risk of market spoilage due to unpredictable quality and a lack of warranties or after-sales service (World Bank 2016).

When it has been possible to connect renewable energy to the grid, this is mostly from intermittent energy sources such as solar PV and wind. However, there is a limit to the penetration of renewable energy into electricity grids, as this intermittency needs to be supported with baseload generation, such as predictable hydro, biomass or fossil fuel based generation, or through emerging energy/battery storage technologies. If electric vehicles emerge as a clean technology for Pacific nations, these are only as clean as the electricity generated by the grids that recharge these vehicles. Electricity grids in the Pacific will need to be strongly interconnected, flexible enough to accommodate this change, and resilient enough to withstand climate impacts, as well as cope with potential demand growth from growing populations and growing electric vehicle use.

9.3.6 Energy efficiency and transport

The recent focus on grid electrification and increased dissemination of stationary renewable energy, i.e. grid connected solar PV for example, often leaves the issues of energy efficiency, clean energy for cooking (that benefits women and children) and sustainable land, sea and air transport in the shadows. Commonwealth Pacific small states are more dependent on the fossil fuels used in cars, trucks and boats than for generating electricity, and more cost-effective displacement of fossil fuel can occur through energy efficiency. However, the attention and funding of development partners is not always directed accordingly to these areas. Development partners may find it easier to fund and install renewable energy generation technologies that provide

a tangible output rather than what may appear as intangible energy conservation and efficiency programmes.

Furthermore, while power utilities have been involved in energy conservation awareness campaigns, they base their business models on selling more electricity rather than less, so, even though excess electricity consumption can put strains on a utility's network and budget, generating profits from essentially higher electricity usage remains a priority. Moreover, although this is improving, consumers generally lack awareness on how they can reduce their energy consumption or be more energy efficient.

It has been estimated that for every US$1 of grant funding for renewable energy, roughly US$0.07 has been invested in energy efficiency, and a preliminary analysis of over US$300 million of grant aid committed for new energy initiatives in Pacific island countries suggests that this percentage is not increasing substantially (Johnston 2010), with only an estimated 2 per cent of energy aid allocated towards energy efficiency in the Pacific between 1970 and 2010 (Niles 2013).

9.3.7 Financing constraints

The International Energy Agency (IEA) and the Sustainable Energy for All initiative (SE4All) estimated that nearly US$50 billion a year is needed to achieve universal access to electricity and clean cooking facilities by 2030. The International Renewable Energy Agency (IRENA) estimates that deploying renewables worldwide on the scale necessary to limit global temperature rise below 2 degrees would require current investment to double by 2020, and triple by 2030 to around US$900 billion annually (IRENA 2016b).

The rapid ratification of the Paris agreement by Commonwealth Pacific Small State countries, and subsequent conversion of intended nationally determined contributions (INDCs) to NDCs is heartening, but these are voluntary (non-binding) commitments that are reliant on external financing from development partners and the regional/multilateral development banks and funds. A huge challenge will be seeing these contributions financed and implemented, considering that energy aid to the Pacific between 1970 and 2010 is estimated to have amounted to only US$1.4 billion (Niles 2013). Significantly more financing, therefore, will be needed to achieve SDG 7.

However, national and local government budgets have been insufficient to provide full access to modern energy services and there is little experience with commercial and sustainable financing mechanisms for the development of renewable energy resources (SPREP 2005b). At the project level, while there may be financing available, due to high transaction costs it is often only for larger projects. There is some difficulty obtaining financing for smaller energy projects by small businesses and individuals, rehabilitation projects and in some subsectors like energy efficiency (SPREP 2005a). Financial institutions do not necessarily understand the opportunities or risks involved in current and emerging energy technologies and may be reluctant to provide loans. Also, project developers may not have the training to prepare project

documents, business plans and the financial analyses to satisfy finance providers that they have 'bankable' projects. Energy technologies often have high upfront costs, which is a significant barrier for low-income earners, those without security, and those without a credit history. When finance is available, the process can face delays, have procurement restrictions and be overly bureaucratic, and ultimately loans need to be paid back.

9.3.8 Lack of gender perspectives

There are many challenges related to gender and youth in the energy sector. Women provide the majority of energy to the household in the Pacific but are not sufficiently represented in the energy sector and are often excluded from stakeholder discussions (UN Women 2014). For example, in those countries with a large biomass resource women and children are traditionally involved in gathering firewood, which reduces the time available spent on other productive activities, as well as potentially exposing them to greater risk of harm as they are more vulnerable the further they have to search for biomass. The burning of biomass for cooking also impacts on women's health as they are generally the most involved in food preparation and are exposed to smoke inhalation.

There are legal and cultural reasons that may also prevent women from fully engaging within the sector. This includes laws that prevent them from owning land or registering companies, limited access to courts and lending institutions, lack of opportunities to develop skills, as well as deep-seated cultural practices that discriminate against them (ADB 2016a). There is also a lack of awareness of the importance of gender equality.

It is often the case that gender expertise is not included during project planning stages. There is usually no sector-specific gender analysis, including involvement of women and women's organisations in stakeholder consultations. Further, there is a lack of gender-responsive monitoring and evaluation, including use of gender-disaggregated indicators.

9.4 Key regional responses

9.4.1 Addressing energy security and co-ordination

To address many of the common challenges, especially energy security, the Pacific has in place a strategic policy framework for energy sector action at the regional level. 'Towards an Energy Secure Pacific – A Framework for Action on Energy Security in the Pacific (FAESP) 2010–2020' was adopted by the Pacific Islands Forum Leaders in 2010. Based on a whole-of-sector approach and the premise of 'many partners, one team', the framework sets out the following themes for action to improve energy security:

- Leadership, governance, co-ordination and partnerships;
- Capacity development, planning, policy and regulatory frameworks;
- Energy production and supply (petroleum and alternative liquid fuels, renewable energy);

- Energy conversion (electric power);
- End-use energy consumption (transport energy use, energy efficiency and conservation);
- Energy data and information;
- Financing, monitoring and evaluation.

The themes recognise that energy security is about access to modern energy services, affordability of energy services, efficiency at all levels of the energy chain and the environmental sustainability of the sector. It also recognises the critical need for all stakeholders in the energy sector to better co-ordinate their efforts and for a more holistic approach to addressing the energy challenges of the region rather than assuming that renewable energy is a panacea. For this to occur, the FAESP highlights that the appropriate capacity, and policy and regulatory frameworks, need to be in place to reduce the dependency on imported petroleum products, while increasing reliance on local renewable energy resources. The FAESP also recognises the need for the energy resources to be accessible and used productively and efficiently. The importance of collecting and sharing energy data is also emphasised in the FAESP. The final theme accentuates the need for financing and measuring the performance of the energy sector to assess its success.

The Pacific Energy Oversight Group[9] (PEOG - Council of Regional Organisations of the Pacific (CROP) agencies only and the International Union for Conservation of Nature (IUCN)) and the Pacific Energy Advisory Group (PEAG - broader membership) provide the oversight and co-ordinating mechanisms for the FAESP. The PEAG allows Pacific island countries and territories (PICTs)[10], development partners, regional agencies and the private sector to share best practices, foster joint activities, minimise costs, ensure consistency, and avoid duplication on an annual basis.

To better appreciate the impact of FAESP, baseline energy security indicators were established to benchmark performance. Through stakeholder consultations involving country representatives, regional organisations, the private sector and development partners, this resulted in the compilation of the 2009 Country Energy Security Indicator Profiles, which served as the baseline for the FAESP 2010–2020. The process culminated in the adoption of the 2011–2015 Implementation Plan for Energy Security in the Pacific (IPESP) at the Inaugural Regional Meeting of Ministers of Energy, ICT, and Transport in April 2011.

The IPESP was a five-year plan for pursuing the vision, goal and outcomes of FAESP. It reflected the priority regional activities that were to be collectively delivered by the participating members of the CROP to support, complement and add value to national efforts on energy security. The energy security indicators formed part of the IPESP monitoring and evaluation framework.

A midterm review (PEOG 2014) of the IPESP was undertaken for the PEOG in 2014. The review found a lack of clarity of the roles and responsibilities of many of the agencies involved in the energy sector, e.g. SPC, Pacific Power Association (PPA),

South Pacific Regional Environment Programme (SPREP) and the Pacific Islands Forum Secretariat (PIFS), with many working relationships based on informal arrangements, making effective co-ordination difficult in achieving the objectives of the IPESP. The review also found that there was a need to better incorporate the FAESP themes into the IPESP, as well as to further prioritise activities under the IPESP, which was quite broad in focus. In addition, the IPESP lacked funding and a resource mobilisation strategy, including for monitoring and evaluation. Moreover, there was a lack of national ownership of the IPESP compared to the FAESP. The review recommended improving regional co-ordination by strengthening the PEOG and PEAG, including providing clarity on the roles and responsibilities of its members, as well as the improvement of the monitoring, reporting and evaluation of the IPESP. The importance of regional co-ordination in the energy sector was also highlighted by the review of the CROP working mechanisms, which concluded that 'energy security in the Pacific will be an ongoing priority that will require a long-term regional co-ordination and information sharing mechanism within CROP' (PIFS 2015).

A progress report on the IPESP, together with updated energy security indicator profiles, is soon to be published, and a new implementation plan for 2016 and beyond has been prepared but has not yet been finalised.

In other efforts to address energy security, the Pacific considered bulk procurement of fuel. With small markets and high transport costs due to distance, purchasing fuel in bulk had the potential to lower the price of fuel through harmonising legislation, fuel standards and procurement rules. Consequently, regional bulk fuel procurement was one of the initiatives outlined in the Pacific Islands Forum Leaders' 2005 Pacific Plan. However, efforts to implement the initiative were beset by conflict between stakeholders, lack of support, unwillingness to incur costs, uncertainty regarding the benefits, lack of benefits for larger countries, and conflicts of interest between signatories. The project ended in 2011 when donor funding expired, and the project had not progressed past the feasibility study stage (Dornan and Cain 2014).

In terms of improving co-ordination, the energy sector has benefited from the Pacific Region Infrastructure Facility (PRIF), a mechanism that commenced in 2008, which co-ordinates the development assistance of the Asian Development Bank (ADB), the Government of Australia, the Government of New Zealand, the World Bank Group, the European Commission, the European Investment Bank, and the Government of Japan in the infrastructure sector. The PRIF provides investment co-ordination, research and technical assistance focusing on energy, transportation, telecommunications, water, sanitation and waste, as well as environmental and social infrastructure. In the energy sector, the PRIF has been involved in the co-ordination of donor activities, energy efficiency and conservation programmes, the Tonga and Vanuatu Energy Road Maps, petroleum supply chain studies, institutional capacity-building in Tuvalu, and support for the Vanuatu Utilities Regulatory Authority. The PRIF also published its first Pacific Infrastructure Performance Indicators report in 2016, which includes monitoring and reporting of the performance of the energy sector in the Pacific (PRIF 2016b).

9.4.2 Improving information on energy

To better inform evidence-based energy policies, a number of regional initiatives and projects are in place. The Sustainable Energy Industry Development Project (SEIDP) will provide technical assistance to increase data availability and capacity in Pacific island power utilities for renewable energy (PPA 2015b, p. 4). The Pacific Regional Data Repository (PRDR) project uses a web-based portal and database management system that supports Pacific governments and their development partners working in the energy sector by facilitating access to up-to-date and reliable energy data and project information.[11]

Various studies have also been carried to assist policy-makers. SPC has published a Pacific Islands Fuel Pricing Manual to inform and support the work of Pacific island officials who regulate or monitor the price of fuel. To improve renewable energy resource information in the Pacific, SPC also recently completed a study on the wave energy resource of the Pacific Ocean (Bosserelle *et al*. 2015). In addition, PRIF, SPC and PPA completed a recent study on liquefied petroleum gas (LPG) and natural gas as alternative energy sources for the Pacific (PRIF 2016a). Moreover, a regional co-operation project has been proposed to collate all coconut biofuel regional experiences and learnings to date and to identify state-of-the-art coconut-to-biofuel technology.

The SEIDP, along with the benchmark and system losses studies undertaken, is a promising way of improving information for power utilities. The PRDR is also a good start to centrally collating energy data in the Pacific region, although SPC has stated that more financial support, without reliance on donor funds, is needed for it to be sustainable. While a subscription/fee-based system was considered for the PRDR to ensure its sustainability, it was contrary to the aim of freely providing this information for accountability and improving evidence-based decision-making (SPC 2016, p.3).

The midterm review of the IPESP also highlighted the importance of ensuring the sustainability of resources to improve energy information, finding that:

> *significant effort and resources should be committed to activities that build capacity of PICTs themselves to collect data and track results including impacts. Currently some efforts are underway for instance work done by SPC to support the production of energy security profile reports and its current energy data repository. However, these efforts need to be scaled up, coordinated between CROP agencies and linked in with individual CROP agencies M&E and Progress reporting.* (PEOG 2014)

9.4.3 Enhancing institutional and technical capacity

There have been several notable initiatives to address the lack of technical capacity in the energy sector in the Pacific. The Sustainable Energy Industry Association of the Pacific Islands (SEIAPI), in collaboration with the University of the South Pacific (USP), was established to provide a certification and accreditation scheme for technicians. This is an important effort in growing the private sector renewable energy industry, as well as ensuring that renewable energy companies share ideas and solutions, keep up to date with the latest training methods, and install renewable

energy systems that conform to the latest competency and electrical standards. SEIAPI will conduct a series of workshops in Pacific island countries over the next four years and promote the SEIAPI/PPA guidelines to governments, donors and other stakeholders as well as updating existing PV guidelines and developing new guidelines.

In addition, the European Union Pacific Technical Vocational and Education Training (PacTVET) project aims to raise the standard of training and increase potential employment opportunities by developing a regionally accredited Certificate I-IV programme in Resilience and Sustainable Energy. Furthermore, the Faculty of Science, Technology and Environment at USP offers undergraduate and postgraduate subjects on renewable energy, as well as a Postgraduate Diploma and Master of Science in Climate Change. Other regional collaborative efforts include the establishment of the Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE), a SE4ALL Centre of Excellence that aims to strengthen local capacities for the development and implementation of sustainable energy systems, policies and standards, and improve south-south, and north-south co-operation and technology transfer.

9.4.4 Tackling electricity tariffs and supply

There have been a number of regional responses to address the costs and challenges of supplying electricity in the Pacific, led by the PPA. The PPA pools national capacity-building efforts to facilitate co-operation between Pacific island power utilities, as well as providing training and enabling the exchange of information and expertise.

The PPA led a regional benchmarking exercise, prioritised under the FAESP, for all member power utilities. Under this initiative, several benchmarking reports have been produced since 2012 to help power utilities formulate performance improvement programmes, including analysis of generation efficiency and system losses to improve the overall energy efficiency of grid-produced electricity. The PPA also commissioned KEMA International in 2012 to undertake a study to quantify the power system energy losses in southern Pacific utilities, which included all the Commonwealth Pacific small states except Vanuatu (PPA and KEMA 2012).

There are also plans to establish a Pacific Islands Energy Regulators Network to foster co-operation, improve communication, and share regulatory approaches to determining energy prices and tariffs and other information between regulatory agencies, energy offices, power utilities and petroleum industry stakeholders, regional organisations, development partners and the private sector.

9.4.5 Improving energy efficiency

Although energy efficiency has largely been overlooked in the Pacific, there have been some recent developments. Following on from the recently completed Pacific Appliance Labelling and Standards Programme, which aimed to increase the importation and sale of more energy efficient appliances, the Pacific Efficient Lighting Strategy (PELS) is being implemented to assist in the Pacific's transition to high efficiency and environmentally sound lighting by 2020. PELS consist of a set

of national and regional actions for on-grid and off-grid lighting, targeting lighting end-uses in residential, commercial and government buildings, as well as street and outdoor lighting (SPC 2015, pp. 5–6).

The potential net economic benefit from implementing standards and labelling for electrical appliances and lighting in Pacific island countries is estimated at over US$640 million (in the period up to 2030). The projected electricity savings are over 2,100 gigawatt hours, with associated fuel import savings of about 720 million litres and emission savings of 1.9–2.0 metric ton equivalent carbon dioxide. Cost–benefit analysis demonstrates that adopting minimum energy performance standards and labelling programmes for appliances, lighting and equipment is far more cost effective than importing an equivalent quantity of fossil fuel or investing in capital-intensive renewable energy generation (SPC 2016).

9.4.6 Energy solutions for the transport sector

To improve the efficiency, effectiveness and sustainability of Pacific transport services, the Pacific island countries developed the 2011–2020 Framework for Action on Transport Services (FATS) (SPC 2011). Similar to the FAESP in the energy sector, the FATS is based on the premise of 'many partners, one team', promotes a whole-of sector approach and has several themes for action to improve aviation and maritime transport services:

- Leadership, governance, co-ordination and partnerships.
- Capacity development, policy, planning and regulatory frameworks.
- Transport safety and security.
- Improved access.
- Environmental impact, technology and energy.
- Transport data, information and knowledge.
- Sustainability, monitoring and evaluation.

The FATS aims to ensure safe, reliable and sustainable transport by creating an enabling environment for the private sector to operate services in an efficient and commercially viable manner, and providing effective safety oversight. The FATS also addresses the energy use of aviation and maritime transport, including mitigating climate change through reduced GHG emissions, by encouraging emissions trading and carbon credit and/or offset mechanisms, alternative fuels, and more efficient air traffic, port and sea transport technology, management, operation and routing.

In terms of research and development in sustainable transport, at USP, the Oceania Centre for Sustainable Transport (OCST) is involved in developing national sustainable transportation roadmaps and strategies, co-ordinating research and development, developing educational programmes, building capacity in policy and planning, co-ordinating expertise, monitoring and evaluation, economic modelling, and implementing appropriate technologies.[12]

On sustainable sea transport, the OCST has been working with private operators in remote communities and hopes to gain funding for a 'greenheart boat', which would use solar charged lead acid batteries to provide auxiliary propulsion for its primary sail rig and provide close to 100 per cent fossil fuel savings.[13] IRENA also identified a number of applications of renewable energy that could be applied to sea transport in the Pacific, including wind (e.g. soft sails, fixed wings, rotors, kites and conventional wind turbines), solar PV, biofuels, wave energy and the use of super capacitors charged with renewables (IRENA 2015).

Improving the energy efficiency of sea transport is also important. To this end, existing ships are required by the International Maritime Organisation to have an energy efficiency management plan in place, including improving voyage planning, regular cleaning of the propeller and underwater parts of the ship, as well as introducing efficiency improvement measures such as waste heat recovery systems, or even fitting a new propeller.[14]

9.4.7 Responses to gender issues

Both the FAESP and IPESP make reference to gender issues and gender mainstreaming but do not elaborate on the issues or provide specific details regarding how they will be addressed. In addition, while the midterm review of the IPESP makes reference to the CROP Gender Working Group, co-chaired by PIFS and SPC, there is no specific recommendation on how to address gender issues in the energy sector.

9.5 National challenges and responses

Commonwealth Pacific small states share similar challenges, including dispersed populations, geographical barriers that make energy distribution and maintenance difficult, lack of capacity and financing, lack of attention to energy efficiency, land tenure issues and vulnerability to natural disasters, which impact energy, and supporting, infrastructure. The majority of the countries have national energy plans, policies and programmes in place to meet these challenges. Development partner support is crucial for many countries in achieving their energy targets. While it may be too early to measure the success of these activities, the targets set are very ambitious and will need continued efforts into the future.

9.5.1 Fiji insert correct note and reorder

Most of the population (880,400) and land area of Fiji is located on the two largest of Fiji's 330 islands - Viti Levu and Vanua Levu. The largest proportion of energy consumption occurs in Viti Levu, where the majority of the people, a large part of the tourist industry, and Suva, the capital city, can be found. Petroleum accounts for approximately 70 per cent of Fiji's energy needs, followed by biomass and renewable energy (Figure 9.1). Fuel imports as a percentage of merchandise imports more than doubled in 2010, compared with 1990 levels, but eased thereafter to 2014 (Figure 9.2).

The transport sector accounts for over 50 per cent of fuel imports (Figure 9.3) and approximately 15 per cent of GDP (ADB 2013). Land-based vehicles are the largest

users of energy, with vehicle registrations increasing by 40 per cent between 2003 and 2013 (Government of Fiji 2013). Fiji is also reliant on open sea and inter-island shipping, and aviation, for transporting passengers and goods, and for its tourist industry.

The Fiji Electricity Authority (FEA) is the government-owned power utility and the Fiji Commerce Commission is the regulatory body for overseeing electricity tariffs. Heavy sulphur diesel fuel is imported for electricity generation, and in times of drought, diesel generation is increasingly relied upon. However, FEA has made efforts to increase energy supply through biomass from independent power producers, including from the state-owned Fiji Sugar Corporation, which generates electricity from bagasse cogeneration plants. FEA has also installed additional mini-hydro plants to further boost hydro power capacity. Rural electrification efforts over the last two decades involving grid extension and solar home systems have increased electricity access to 60 per cent of the population (Figure 9.4). The average residential electricity tariff in 2013 was US$0.17 (Figure 9.5) and the most recent household expenditure survey indicates that 10 per cent of household income is spent on energy (SPC 2016).

Fiji's experience with renewable energy dates back to the 1980s with hydro power and biomass dominating, although solar PV installations are steadily increasing, especially for commercial buildings and rural electrification. Current plans also include enhancing mini hydro systems, bioenergy (coconut oil) and wind systems. Biogas/bioethanol gasifiers were trialled in the 1980s but were not found viable. However, there is considerable potential for geothermal power generation. In the area of transport, use of fuel-efficient cars has increased, with more than 2,000 Toyota Prius hybrid cars registered in Fiji since 2013 (anecdotally, this increase is due to the removal of import duties on hybrid cars, and taxi drivers are reporting up to 50% fuel savings) (*Fiji Sun* 2015).

Fiji's main challenges in the energy sector include a dispersed rural population over many islands, which makes energy supply difficult and costly to implement and manage, as well as vulnerability to natural disasters, especially cyclones and flooding, that damage energy infrastructure (IRENA 2013 – Fiji). In terms of electricity supply challenges, Government's rural electrification programmes remains unsustainable in the absence of an effective cost-recovery framework and there is also no clear regulatory framework for encouraging third party electricity generation (Government of Fiji 2013, 11). In addition, there are difficulties in achieving renewable energy targets with increased use of diesel generation, an inability to encourage private sector investment as past failed projects have increased the risk perception of renewable energy investment, and the absence of national standards or certification to ensure that renewable energy equipment is suitable for local conditions (Government of Fiji 2013, 11).

Fiji has a National Energy Policy 2013–2020, driven by the Ministry of Infrastructure and Transport. The National Energy Policy includes the goal of achieving 100 per cent access to electricity by 2020. It also outlines the potential for increasing the

contribution of renewable energy in electricity production from 67 per cent (hydro 62%, wind 4% and biomass 1%) to 80 per cent through undeveloped hydro sites, and unexplored geothermal, solar and wind resources. Further potential for reducing GHG emissions and the dependency on fossil fuels has been identified through energy efficiency in transport, the power sector, industry, businesses and households. The goal in Fiji's NDC is to increase the electricity generated by renewable energy to 99 or as close to 100 per cent as possible by 2030. The National Energy Policy also highlights the negative health impacts, particularly on women, of traditional cooking and the need to more actively involve women in determining future forms of energy sources for cooking.

9.5.2 Kiribati[15]

Kiribati is made up of three main island groupings – the Gilbert Islands, Phoenix Islands and Line Islands. Energy consumption is concentrated in the Gilbert Islands, where 90 per cent of Kiribati's 112,900 people live, particularly in the capital atoll of Tarawa. Kiribati relies on fossil fuels for 97 per cent of its energy needs, with the rest provided by biomass (Figure 9.1). Fuel imports have almost doubled since 1990, making up close to 20 per cent of Kiribati's merchandise imports in 2013, which is higher than the world and small states average (Figure 9.2). The Kiribati Oil Company (KOIL) imports fuel from Fiji and is also responsible for distribution. The demand for energy and increasing reliance on fossil fuels is underpinned by population growth. Over half of Kiribati's energy is consumed by the transport sector (52%), followed by the electricity sector (Figure 9.3).

Fuel usage for inter-island shipping represents the bulk of the diesel fuel imported for transport purposes, with both government and private ships providing passenger and freight services between islands or across the lagoon on an atoll. Although there are no data regarding the relative amount of diesel and petrol use for land transport, there are an increasing number of diesel vehicles on the road, with the Kiribati government preferring diesel-powered vehicles both for their fuel economy and relatively low maintenance requirements.

Around 59 per cent of Kiribati's population has access to electricity, with access rates lower for the rural population, compared to urban areas (Figure 9.4). Around 44 per cent of households in Kiribati are connected to the public grid network provided by the Public Utilities Board (PUB), with 87 per cent access in Tarawa, while access to grid-connected electricity for the rest of Kiribati is significantly low at an estimated 5 per cent (SPC 2009). Energy in the outer islands is provided by biomass (coconut husks and shells, and mangrove wood), small generators, kerosene and solar power. LPG use is growing on Tarawa to replace kerosene for cooking.

Solar energy is the most commonly used renewable resource and Kiribati has been successfully using solar outer island electrification for over 20 years. The government owned Kiribati Solar Energy Company (KSEC) provide 17 per cent of homes with off-grid solar power systems. Harnessing ocean energy (wave and ocean thermal energy) is currently at the technical development stage but may become useful in the future.

In terms of regulatory frameworks, there are price controls for petrol and kerosene from KOIL (diesel is not under price control), while PUB and KSEC Boards set their tariffs (although government has intervened in the past). The average residential electricity tariff in 2013 was US$0.57 (Figure 9.5). The three companies are state-owned enterprises, as private sector investments are extremely limited because the energy market in Kiribati is considered to be unattractive.

Kiribati's key energy challenges stem from its geographic and population dispersion. Kiribati's 32 atolls and one island are scattered over all four hemispheres in an expanse of ocean equivalent in size to the continental United States. This makes management of energy systems difficult, and installation and maintenance of energy equipment slow and costly. Environmental conditions also regularly impair energy equipment. Furthermore, with limited economic resources, Kiribati is highly dependent on official development assistance (accounts for 50% of GDP), with almost total dependence on external funding for energy projects, which results in long lead times and adds complexity to implementation. Moreover, there are significant capacity issues in the energy sector, lack of awareness regarding renewable energy and energy efficiency, and availability of energy data is limited.

The Ministry of Public Works and Utilities is responsible for the planning, management and co-ordination of the energy sector. With the assistance of SPC and other partners, Kiribati is in the process of developing a long-term energy sector strategy, which will include several renewable energy targets. In its recent national plan, the Kiribati Development Plan 2016–19, the government has focused on improving infrastructure for the energy sector, including in renewables. The Kiribati Joint Implementation Plan on Climate Change and Disaster Risk Management notes the vulnerability of women, youth and children.

9.5.3 Nauru[16]

Nauru is a small single oval-shaped and raised coral equatorial island. In the past, Nauru's economy was dependent on the phosphate industry, which also fuelled its energy demand. However, since the decline of phosphate production from its peak in 1975, the domestic residential sector is now the dominant user. Nauru relies entirely on petroleum (Figure 9.1), with fuel imports accounting for 8 per cent of GDP in 2014 (SPC, 2016). The Nauru Utilities Commission (NUC) provides all energy services to Nauru except for the Australian refugee camp and the main processing plant of the Republic of Nauru Phosphate Corporation (RONPHOS), which generate their own power. The government purchases petroleum for supply to all customers except RONPHOS, which does its own purchasing. The electricity sector is the biggest user of fuel, followed by the transport sector (Figure 9.3).

All of Nauru's population (10,800) have access to electricity provided by NUC and subsidised by the government (the energy subsidy accounts for one-quarter of all government spending). The average residential electricity tariff in 2013 was US$0.28 (Figure 9.5). Artificially low tariffs due to the subsidies, and lack of bill payment enforcement has resulted in a culture of very high electricity use. Consequently, prepayment meters have been introduced to limit usage. Although Nauru has

experimented with solar energy, less than 1 per cent of Nauru's electricity is generated from renewable resources. Current renewable energy projects in the pipeline should increase this to around 3 per cent.

Land vehicles are the largest component of the transport sector, followed by small domestic fishing boats and aviation (Government of Nauru 2014, p. 53). A recent census found that 46 per cent of households owned one motorcycle, 29 per cent of households owned at least one vehicle, and 6 per cent of households owned a boat.[17] Bicycles are not widely used in Nauru but there is a limited bus service in the morning and afternoon for commuting by school children and civil servants (Government of Nauru 2014, p. 53).

Some of the main energy challenges in Nauru include high logistics cost to access the island, land tenure problems for large projects, a harsh marine environment, lack of economies of scale and limited capacity (particularly technical energy capacity and project management).

Nauru adopted a National Energy Policy Framework in 2009 that included a target to supply 50 per cent of the total energy use from renewable energy by 2015. The target was not met and was revised to 50 per cent of grid electricity, rather than total energy use, for achievement by 2020, in the subsequent Nauru Energy Road Map (Government of Nauru 2014, p. 13). The Road Map also outlines targets for uninterrupted grid electricity supply and 30 per cent improvement in energy efficiency by 2020. According to Nauru's NDC, the government's main strategy for renewable energy is to replace a substantial part of diesel electricity generation with a large-scale grid-connected solar PV system, as well as implementing demand-side energy management improvements. The Environment Division of the Department of Commerce, Industry and Environment has responsibility for energy policy and planning but is faced with staffing issues and there is also a very limited framework for monitoring and evaluation of progress in the energy sector (SPC, GIZ and IRENA 2013), which can hamper Nauru's efforts to achieve its energy targets. Of all the relevant documents from Commonwealth Pacific small states concerning this issue, the Road Map makes the most reference to gender and youth, noting the need for gender mainstreaming, collecting and disseminating information, disaggregation of data, and greater involvement of women in decision-making.

9.5.4 Papua New Guinea[18]

PNG has the largest land mass and is the most populous of the Commonwealth Pacific small states, with an estimated 8 million people, of whom 87 per cent are based in dispersed and remote rural areas (SPC 2016). PNG's total energy supply is led mostly by petroleum (55%), followed by biomass (39%) and smaller shares of natural gas (3%) and renewable energy (3%) (Figure 9.1). PNG is different to the other Commonwealth Pacific small states as it has its own indigenous fossil fuel resources (oil and gas). Although crude oil production has declined steadily since its peak in 1993 (as the resource becomes depleted), PNG embarked on a US$19 billion Exxon

Mobil LNG project, with the first shipment of LNG exported to Japan in 2014.[19] More than 70 per cent of PNG's export earnings come from mining and petroleum.[20]

Nevertheless, PNG continues to import refined petroleum but since 2004, after the construction of its own refinery, petroleum usage is increasingly from local sources. Therefore, the increase in fuel imports as a percentage of imports from 1990 to 2013 (Figure 9.2) was likely a result of a combination of relatively higher oil prices and lower overall imports. In 2013, fuel imports were worth 21 per cent of GDP (SPC 2016). Manufacturing is the largest consumer of energy in PNG, followed by transport and electricity (Figure 9.3). Due to their contribution to PNG's economy, the largest subsector users in the manufacturing sector are most likely to be mining and quarrying, wood and wood products, and construction.

In terms of transport, land transport is the largest user of energy and the number of motor vehicles in PNG has been increasing in recent years in line with economic development in the main population centres and the increasing preference for private motor vehicles. The government has considered improving public transport by using energy efficient buses in the shorter term and trams and trains in the longer term.

Given PNG's largely dispersed population in generally hard-to-access remote rural areas, only 18 per cent of the population have access to electricity (Figure 9.4). However, the majority of urban residents have access to electricity. PNG Power Limited (PPL) is the government-owned electricity supplier. There are also a number of private electricity suppliers that service the resource extraction sector. PNG is unique in that private electricity generation matches that of the public utility. The average residential electricity tariff in 2012 was US$0.36 (Figure 9.5). Renewable energy provides 47 per cent of electricity generation and this is likely to increase to 50 per cent once current projects are completed (SPC 2016). There is also the potential for further solar, hydro and geothermal expansion as well as a large biomass resource to utilise.

Some of the main challenges in the energy sector in PNG are a lack of renewable energy awareness, education and capacity, lack of funding for energy sector oversight by government, land access issues, vulnerability to natural disasters, dispersed rural populations lacking cash income to pay for a modern energy supply, the absence of an energy policy, and an electricity tariff that does not recover the full cost of supply.

The Department of Petroleum and Energy has oversight of the energy sector in PNG. PNG has not adopted an energy policy since 2005. However, PNG's Vision 2050 strategic plan, launched in 2009, outlined an aim of providing 100 per cent power generation from renewable energy sources. PNG is also currently in the process of finalising its National Energy Policy and National Energy Plan. The policy intends to reform the energy sector and electricity services industry, opening competition, setting new institutional and regulatory arrangements, and restructuring the sector, including PPL, to be more efficient and effective. It includes an electricity access target of 70 per cent by 2030.[21] The NDC for PNG outlines replacement of fossil-fuelled electricity generation with renewable energy sources with a target of having a carbon-free electricity sector by 2030. Solar PV, geothermal, biomass fuelled plants, additional hydro, and energy efficiency and conservation are to be investigated.

9.5.5 Samoa[22]

Samoa consists of two large islands where majority of the 194,000 population reside – Upolu (76%) and Savai'i (24%). The large majority of energy supply in Samoa is petroleum (80%) (diesel, petrol, kerosene and LPG), with a much smaller percentage coming from biomass (17%) and renewable energy (3%) (Figure 9.1). Fuel imports account for 11 per cent of GDP (SPC 2016), and have risen as a percentage of merchandise imports from 12 per cent in 1990 to 24 per cent in 2014 (Figure 9.2). The transport sector is the largest consumer of energy in the economy (Figure 9.3).

The transport sector consists of mainly land vehicles and domestic shipping fleets, which use fossil fuels and a very small amount of biodiesel. The government has attempted to restrict GHG emissions in the transport sector but has lacked the capacity and financing to do so. The government has also recognised the possible improvements in energy efficiency from a better planned and managed public transportation system.

Close to 100 per cent of Samoa's population have access to electricity (Figure 9.4). The Electric Power Corporation is the government-owned power utility in Samoa. The average electricity tariff in 2013 was US$0.43 (Figure 9.5), with an increasing gap between real costs and revenue. In 2014, 26 per cent of electricity was generated by renewable energy (solar PV, wind and hydro power). This was a reduction from the 48 per cent generated by renewable energy in 2007 due to three of five hydro power stations being destroyed by Cyclone Evan in December 2012, and drought and deforestation affecting hydro inflows.

Some of the main challenges in the energy sector in Samoa include its dependency on fossil fuels, land tenure issues, the harsh tropical environment, lack of technical capacity, and the impact of environmental events on its hydro power supply.

The National Energy Coordinating Committee is the co-ordinating body in the energy sector in Samoa. It comprises key cabinet ministers and chief executive officers of ministries and agencies in the energy sector and is chaired by the prime minister. The Energy Policy and Coordination Division of the Ministry of Finance is responsible for oversight of the energy sector, including the petroleum supply.

Samoa has in place several key sectoral plans and policies related to energy and energy issues are prioritised in its national development plan. The Strategy for Development of Samoa (SDS) 2012–2016 included renewable energy investment as a strategic outcome. Samoa is in the process of finalising its next Strategy for Development (2016–2020). The Samoa Energy Sector Plan 2012–2016 set out a plan to deliver outcomes consistent with the SDS, with an overarching goal of increasing energy self-sufficiency. A new energy sector plan has not yet been released. The Electricity Act 2010 introduced key regulatory changes to allow the entry of private sector IPPs and will contribute to the achievement of 50 per cent renewable electricity generation once current projects are completed. Other key policies include the Greenhouse Gas Abatement Strategy, Climate Change Policy 2007 and the draft Energy Efficiency Act. As part of its NDC, Samoa has a target of generating 100 per cent of its electricity from

renewable energy by 2017 and a target of maintaining 100 per cent by 2025 in light of growing electricity demand, which a recent study proved feasible if a few measures are incorporated into the existing power system and if water supply remains steady (IRENA 2016a).

9.5.6 Solomon Islands[23]

Solomon Islands consists of nearly 1,000 islands, 350 of which are inhabited by 651,700 people, with 80 per cent living in rural areas. Biomass (53%) and petroleum (47%) are the main sources of energy supply (Figure 9.1). Fuel imports as a percentage of merchandise imports rose to around 30 per cent in 2013 from 19 per cent in 1990, before falling to 24 per cent in 2014 (Figure 9.2). The largest consumers of fossil fuels in the Solomon Islands were the 'other' (61%), transport (18%) and electricity (16%) sectors (Figure 9.3)[24]. For the Solomon Islands the largest subsector users from the 'other' sector are most likely to be forestry, fishing, and households.

The transport sector uses more than 50 per cent of fossil fuels for land vehicles and domestic shipping vessels. To improve energy efficiency in the transport sector, the government is raising awareness regarding the economic and climate change mitigation benefits of public transport, and is trying to promote the use of biofuels for transportation to reduce GHG emissions and minimise the dependency on fossil fuels.

Around 23 per cent of the population have access to electricity, with a larger proportion of those in urban areas with access compared to those in rural areas (Figure 9.4). The government-owned Solomon Islands Electricity Authority is responsible for electricity supply and operates nine electricity systems, including in Honiara. For the past 20 years, peak demand in Honiara has usually exceeded supply, causing frequent blackouts, although recent upgrades of the power systems have improved the situation. The average residential electricity tariff in 2012 was US$0.87 (Figure 9.5), with cross-subsidies in place from Honiara consumers to other users. Although the technical potential for renewable energy is considerable, suitable sites are far from demand centres and only little of the renewable energy has been accurately assessed. Electricity generated by renewable energy should increase from less than 1 per cent to 5 per cent once current projects are completed.

Some of the main challenges in the energy sector include lack of staffing and financial resources in the Energy Division, lack of government capacity to absorb donor assistance for energy projects, lack of technical skills, lack of energy and related data, geographical challenges (rough terrain and archipelagos spread over a wide expanse of ocean), low cash incomes in rural communities to pay for a modern energy supply, land tenure problems, few standards and regulations for energy use and development, and inadequate legislation.

The Energy Division of the Ministry of Mines, Energy and Rural Electrification is responsible for energy policy, renewable energy development and project implementation. The 2014 National Energy Policy sets a target of 50 per cent of electricity generated by renewable energy by 2020. The NDC for the Solomon Islands

includes several renewable energy projects (hydro and solar) and reductions in energy usage through energy efficiency that will contribute to decreases in future fossil fuel use. The Solomon Islands Government has indicated that it will consider market-based mechanisms to raise funds to support the establishment and operation of a National Climate Change Trust Fund that will co-ordinate and manage the allocation of climate finance for climate change adaptation and mitigation activities. The National Energy Policy notes that gender-sensitive approaches are required when considering the needs for, and decision-making processes in, sustainable energy systems.

9.5.7 Tonga[25]

Tonga consists of 176 islands, 36 of which are inhabited. The islands are clustered in five groups – Tongatapu, Vava'u, Ha'apai, 'Eua and Niuas. Majority of Tonga's 100,600 population live in Tongatapa (73%). Tonga relies almost exclusively on petroleum, with less than 1 per cent accounted for by biomass (Figure 9.1). Fuel imports accounted for 10 per cent of GDP in 2014 (SPC 2016). As a percentage of total merchandise imports, fuel imports rose from 13 per cent in 1990 to 21 per cent in 2014 (Figure 9.2). The 'other' (56%), transport (34%) and electricity (10%) sectors are the predominant users of fossil fuels (Figure 9.3). For Tonga, the largest sub-sector users from the 'other' sector are most likely to be fishing, public services and households.

Land transport is the largest energy user in the transport sector. The government has noted the lack of available technological solutions for the transport sector and considers that opportunities for cleaner transport are limited.

Around 96 per cent of Tonga's population have access to electricity (Figure 9.4). Electricity is supplied by the government-owned Tonga Power Ltd (TPL), which is regulated by the Tonga Electricity Commission. The rural areas in Tongatapu have grid electricity supplied by TPL and the outer islands have solar power or mini-grids that are operated on a community-based management model. The average residential electricity tariff in 2013 was US$0.52 (Figure 9.5). Tonga has used solar energy since the late 1980s although biomass remains the primary renewable energy source. There is no potential for hydro energy and assessments indicate that geothermal energy is uneconomical. Wind resources have potential, although not on a large scale, with biogas and biofuel also having limited capability. However, there is potential for tidal resource although cyclones pose a serious problem. In 2015, renewable energy accounted for approximately 9 per cent of total electricity generation, and this is expected to increase to 13 per cent in 2016 on the completion of already confirmed and funded investments.

Some of the main energy sector challenges in Tonga are a scattered population on numerous atolls that makes centralised management of energy supply costly and problematic, lack of capacity in the energy sector, lack of data, lack of awareness regarding renewable energy and energy efficiency. Also, transport within and to Tonga is expensive, which increases the costs of replacement parts and maintenance, and the environmental conditions are harsh on energy infrastructure. Tonga is also

almost totally reliant on donor funding for energy projects, which results in long lead times, and complicated implementation and maintenance.

The Energy Planning Unit of the Ministry of Lands, Environment, Climate Change and Natural Resources is responsible for energy planning, policy development and project co-ordination. Tonga has in place the Tonga Energy Road Map (TERM) 2010 – 2020, which includes targets of 50 per cent of electricity generation via renewable energy by 2020, and reducing the level of electricity network losses to a maximum of 10 per cent. The government also aims to replace all diesel-based water pumping engines by 2017 using solar power. Although the TERM did not include land transport, which is the largest consumer of fuel imports, it is in the process of developing transport sector measures and has undertaken training and public awareness actions on vehicle maintenance, public transport and bicycle usage.

While there was also a plan to increase renewable energy from 50 to 100 per cent in total electricity production by 2030, this was revised in the NDC. Tonga now aims to have 50 per cent of electricity generation from renewable sources by 2020, and 70 per cent by 2030. It also aims to improve energy efficiency through reduction of electricity network losses from an 18 per cent baseline in 2010 to 9 per cent by 2020. It will also have an emission reduction target for transport.

Tonga's climate change policy, 'A Resilient Tonga', aligns with the INDC and promotes the use of innovation, high technology, energy efficient appliances and disincentives for inefficient appliances. The government is also interested in investigating biofuels for transport and electricity generation, and in diesel engine efficiency services training to help reduce fossil fuel consumption in the country. The government has also identified interest from the private sector in a solar car public transport campaign for tourists and claimed 'the world's first solar powered tuk-tuks' at their launch in November 2016.[26] The TERM states that special consideration will be given to women and gender equality in the Tonga Strategic Development Framework 2015–2025.

9.5.8 Tuvalu[27]

Tuvalu has a very small land area (26 km^2), spread over six atolls and three islands, with around 48 per cent of its 10,100 population living on the atoll and capital, Funafuti. Petroleum accounts for 100 per cent of Tuvalu's energy supply (Figure 9.1) and 10 per cent of GDP (SPC 2016). Petroleum replaced biomass as its major energy source in the 1990s. Fuel is imported into Tuvalu via Fiji by Pacific Energy, which owns all storage and distribution facilities. This fuel is mainly used for electricity generation (41%) and transport (40%) (Figure 9.3).

Around 45 per cent of the population have access to electricity (Figure 9.4). Electricity is supplied by the Tuvalu Electricity Corporation (TEC) and the average residential electricity tariff in 2013 was US$0.51 (Figure 9.5), which is highly subsidised. Currently, only 2 per cent of electrical energy comes from renewables (solar). However, there is significant potential for renewables (solar, wind and coconut oil based biofuel). It is expected that after completion of current energy sector projects, 43 per cent of electricity will be derived from renewables.

With limited land area, the transport sector is dominated by outboard motor boats that travel within the atolls and islands.

Some of the main energy sector challenges facing Tuvalu are lack of capacity in the energy sector and in preparing energy project proposals for financing, the TEC not recovering sufficient revenue from subsidised tariffs to ensure sustainable operation, high cost of sea and land transport, land tenure issues, geography and dispersed population, the high cost of providing electricity in a harsh environment, lack of capital, and a lack of awareness of energy efficiency and renewable energy.

The energy sector is managed by the Department of Energy within the Ministry of Public Utilities. Tuvalu's NDC provides a commitment of reducing GHG emissions from the electricity generation sector by 100 per cent by 2025 (Tuvalu's 2009 National Energy Policy stated 100% by 2020) and from the entire energy sector to 60 per cent below 2010 levels by 2025. This is conditional upon the necessary technology and finance. Tuvalu also has a Master Plan for Renewable Energy and Energy Efficiency (2012–2020) that includes a goal of increasing energy efficiency on Funafuti by 30 per cent, a planned energy efficiency appliance subsidy scheme in co-operation with the Development Bank of Tuvalu, and the use of prepayment meters to limit the consumption of electricity. The 2009 Tuvalu National Energy Policy included gender equity as a principle of the policy.

9.5.9 Vanuatu[28]

Vanuatu is made up of 80 islands, 65 of which are populated, with 76 per cent of the 289,700 population based in rural areas. Vanuatu relies heavily on imports of fossil fuel for its energy needs with 63 per cent of its total energy supply coming from petroleum, followed by biomass (35%) and renewables (2%) (Figure 9.1). Fuel imports accounted for 6 per cent of GDP and 14 per cent of merchandise imports in 2014. The transport sector and the electricity sector are the largest users of fossil fuels (Figure 9.3).

With Vanuatu made up of so many islands, inter-island shipping and aviation are heavily relied upon for transport. Roads are being upgraded and Port Vila has a unique minibus service that serves as the main public transport system.

Only 27 per cent of Vanuatu's population has access to electricity, with only 18 per cent coverage in rural areas (Figure 9.4). Grid electricity in urban areas is supplied by private companies. The Union Electrique du Vanuatu Limited supplies electricity to Port Vila (capital city), East Malakula and Tanna. Vanuatu Utilities and Infrastructure Limited supplies electricity to Luganville (second largest city). These companies' tariffs are set by the Utilities Regulatory Authority. The average residential electricity tariff in 2013 was US$0.55 (Figure 9.5). Vanuatu has capitalised on its renewable energy to some extent, with a wind farm and solar PV system connected to the Port Vila grid, and a hydro power station that serves Luganville, as well as use of coconut oil for generators.

Some of the main energy sector challenges in Vanuatu include insufficient capacity and financial resources of the Department of Energy, limited cash income in rural

areas to pay for electricity, geographic challenges and inadequate transport to reach remote rural villages, low population density making the costs of grid extension and maintenance high, and high vulnerability to natural disasters, especially cyclones, and land tenure.

The Department of Energy in the Ministry of Climate Change and Natural Disaster is responsible for the energy sector in Vanuatu. The key energy sector policy document is the Updated National Energy Road Map (NERM) 2016–2030, which has five energy sector priorities and associated targets: increasing access to electricity, reducing reliance on petroleum products, affordable energy services, a secure energy supply, and mitigating against climate change through renewable energy and energy efficiency (Radio NZ 2016). Vanuatu's NDC outlines a target of increasing the electricity generated by renewable energy from about 25 to 100 per cent by 2030. The government's updated NERM also has a target of increasing the proportion of the population with access to electricity to 100 per cent by 2030. The Rural Electrification in Vanuatu Nationally Appropriate Mitigation Action (NAMA) serves as a replicable model for achieving this access target and includes establishing five microgrids for rural communities, tourism and agricultural facilities, health centres, and schools and extending five existing electricity grids to households, public institutions and tourism/commercial consumers in the proximity of power lines.[29] In terms of addressing gender issues, the NERM notes the disproportionate impact of traditional cooking on women, whereas the NAMA discusses providing equal employment opportunity for women, and the 2015 Infrastructure Strategic Investment Plan includes reference to inclusive and gender balanced economic growth.

9.6 Remaining gaps and possible solutions

The following section identifies key gaps in the current responses at the regional and national level that will need to be addressed to ensure the best possible chance of achieving SDG 7 by 2030 and sustaining an energy secure Pacific through to 2050. While some of the 'gaps' may have been highlighted in regional and national policy responses, from the perspective of a desk review it is difficult to ascertain whether policy implementation has been successful. Therefore, continued efforts, upscaling or fast-tracking of already identified policy interventions may be needed to effectively address these gaps.

9.6.1 Strengthening energy security and co-ordination

The FAESP and IPESP are key regional responses to ensure energy security and co-ordination in the Pacific, with the midterm review of the IPESP indicating several important areas of improvement, as discussed previously. Crucially, co-ordination of energy sector activities should continue in the Pacific to avoid duplication. With many agencies involved in the energy sector in the Pacific, it is vital that consistent approaches to encouraging energy sector development are used to avoid overburdening national capacity, minimise time and costs, avoid competition and conflict, and produce consistent outcomes using a 'Team Pacific' approach.

In addition, many of the Commonwealth Pacific small states have no national standards or certifications to ensure that imported renewable energy technologies are suitable for local conditions. Therefore, co-ordination in this area is important to develop standards for these technologies, as well as having basic templates for due diligence, for example in areas such as project appraisal and IPP connection agreements. This could assist with more certainty for investors in renewable energy in the Pacific and save funds, resources and duplication. Countries that could collectively benefit from high-cost capital-intensive energy projects could also pool their financial resources to spread their risks. While these areas have been highlighted in the revised IPESP and FAESP, there has been little apparent progress in implementation.

Despite the lack of success with bulk procurement, Commonwealth Pacific small states should consider ways to individually or collectively negotiate for more cost-effective supply and logistics, and develop relationships with the petroleum companies to manage the transition away from petroleum-based economies to clean energy economies. Individually, a larger country like Fiji may be able to maintain a strong bargaining position, but smaller countries need the support of others.

Continued strengthening of co-ordination at the national level is also important as different ministries may have responsibility over the sectors of the economy that impact on the energy sector and provide supporting infrastructure, e.g. energy, utilities, ICT, transport, the environment, and climate change. These ministries and the activities they undertake need to be co-ordinated at the national level to minimise duplication and ensure co-ordinated action in reducing fossil fuel dependency, increasing access to energy, increasing clean energy and reducing GHG emissions. While the revised IPESP and FAESP recognise the need to strengthen co-ordination in the energy sector, progress has been slow.

Governments have led on international climate action through the Paris Agreement and NDCs, but further action on the ground is needed to influence the shift to a cleaner and more sustainable energy system. There is a need to raise the awareness of all stakeholders on the benefits of moving to a clean energy supply system based on energy conservation, energy efficiency and renewable energy. Thorough stakeholder consultation, including with women and youth, should also be undertaken to ensure that these perspectives are taken into account in all stages of energy policy. Encouraging the private sector to transition to a low carbon energy system will be critical.

Governments can lead by example as 'green governments' by ensuring that public procurement guidelines include preference for energy efficient and renewable energy practices in providing goods and services. This will raise awareness, as well as stimulate the supply chain in energy efficient and renewable energy practices. This may also encourage the use of renewable energy equipment in remote areas, if these products and services are being procured for government buildings, e.g. health centres and schools. Governments can also consider subsidised solar programmes for schools, health centres/hospitals and other buildings to encourage use of solar PV systems.

However, while governments' ambitious renewable energy targets are commendable, they may unrealistically raise expectations and undermine pragmatic attempts to

bring change to the energy sector. Development partners, other finance providers, and investors may also prefer to support plans with more realistic targets that can be achieved, rather than fund plans with unrealistic targets that are continually missed.

This is especially true for plans that target 100 per cent access to affordable, reliable, and sustainable modern energy services by 2030, which may ultimately be unachievable and, in the process, divert resources away from needier sectors, such as health and education. For energy systems to be truly sustainable, they have to be paid for by Pacific energy consumers. Given the economic profile of many of the Commonwealth Pacific small states, this is unlikely to be achievable.

9.6.2 Information

Although there are a number of regional initiatives and projects in place to improve energy information, a sustainable resource stream is needed to scale up current efforts. Furthermore, current initiatives may not be sufficient to meet the needs of energy stakeholders in the Pacific. Efforts to improve information collection, collation and dissemination through SPC, SEIDP and the PRDR should continue. However, a single platform is needed where key and updated energy statistics are kept in a centrally accessible online database, at SPC for example, that becomes the authoritative reference for energy statistics in the Pacific. Greater national data collection is needed to support this, along with the capacity-building that is required to enable it.

9.6.3 Importance of building capacity

Renewable energy usually involves labour-intensive employment, but there appears to be insufficient absorptive capacity within countries to undertake these type of projects. Therefore, it may be that more complex projects are being undertaken prematurely, when more support should be provided for education, training and building existing capacity before proceeding. Regional and national institutional capacity is also lacking, resulting in insufficient financial and human resources to implement energy sector strategies and policies.

To ensure that the Pacific has a flexible and adaptive workforce to embrace emerging renewable energy technologies, energy sector studies, finance and project management should be entrenched in nationally and regionally recognised vocational and tertiary courses, curricula and qualifications. In addition, to promote and improve guidelines and technical standards for renewable energy technologies and ensure consistency across the region, renewable energy companies from all Commonwealth Pacific small states should be encouraged to make use of the PCREEE and be members of SEIAPI, of which USP is also a member, so that their employees can access training and support, exchange ideas and become certified, thereby raising the standard of renewable energy installations and maintenance in the Pacific.

Training courses and financial support should be provided for project developers to build their capacity to complete early project milestones in the early development process of energy sector projects, i.e. business plan development, feasibility studies,

project design documents, financial structuring etc., so that they can confidently submit proposals with sound economic and financial analysis to financial institutions and development partners for funding. Training should also be developed for the commercial and development banks, and the broader financial industry, to better understand the business opportunities, products, technologies, barriers and perceived risks associated with energy sector projects.

While building capacity is tackled to some degree in the revised IPESP and FAESP, there is a need to accelerate implementation of identified initiatives.

9.6.4 Improving electricity supply, access and tariffs

If renewable energy is to account for 100 per cent of total electricity supply by 2030 in some countries, then electricity grids will need to be stable enough to cope with this level of integration. Those electricity grids that include renewable energy in their baseload power (such as hydro power or biomass), will be more stable than others. Those that do not have renewable energy integrated in their baseload power will have to integrate battery storage to cope with losses of intermittent renewable energy power, such as with the use of solar and wind power. Vanuatu has integrated wind and coconut oil into the fuel mix of its electricity generation, but other countries have not had similar success with integration of these particular types of renewable energy sources.

To integrate greater levels of renewable energy into electricity grids, especially solar PV, grid stability studies should continue to be conducted to determine the feasible amount of renewable energy that can be connected to the grid (including with cloud predicting solar PV technology, and rapid advances and cost decreases in battery storage). In addition, electricity grids can be developed in such a way that allows for the adoption of emerging technologies (marine energy, electric vehicles) in the future. The current and future use of smart grids and electric vehicles in developed countries and other island regions should be closely monitored for potential replication in the Pacific at the appropriate time.

However, expectations should be managed. As the diffusion of grid-connected solar PV technology and wind turbines, for example, has largely trailed the adoption and dissemination of those technologies in developed countries, Commonwealth Pacific small states should not expect the latest sustainable energy technologies to be implemented before, or at a quicker rate than, these technologies have been adopted in more developed countries. Regardless of whether particular technologies can be adopted immediately, investing in the electricity grid to reduce losses, blackouts, brownouts and power rationing to ensure greater efficiency in the energy supply system is likely to reduce fossil fuel consumption and associated GHGs more quickly and at lower cost than an inefficient system with increased renewable energy.

In addition to making the system more efficient, legal and regulatory frameworks need to be established to provide enabling environments for greater private sector investment in the energy sector, i.e. arrangements that allow for IPPs (commercial and residential) and emerging renewable energy technologies to access electricity

grids. This should include a transparent process for procurement of new large-scale capacity from IPPs, that includes an economically justified feed-in-tariff[30] or pricing principles/framework to be applied in all new power purchase agreements, and associated grid connection standards. There should also be a framework for greater expansion of the grid to those places where it is economically feasible to do so.

To improve access and expand rural electrification, some countries are developing plans to show how each unelectrified area will be served with least-cost solutions or how the grid could be extended to ensure that renewable energy generation can displace as much diesel fuel, kerosene, and unsustainable biomass use as possible. Authorities should develop management models for off-grid rural electrification using renewable energy service companies to provide electricity to isolated communities and areas not served by the utility. This needs to be done in a way that is appropriate for the particular cultural, geographic, remote and rural circumstances, taking account customers' willingness and ability to pay, and utilising a sustainable business model that ensures that there is technical capacity to make repairs, a resilient supply chain to provide spare parts, and a tariff (whether this includes subsidies or not) that covers these costs and those of replacement systems at the end of the current system's lifetime.

While grid extensions will meet the need of some customers, small plug and play solar systems may suit the needs of others. Authorities should consider solar PV plug and play approaches that ensure that the economic costs are contained to ensure affordability for customers, while allowing for the adoption of appropriate emerging technologies, such as better battery storage technologies. Authorities should also develop complimentary battery collection/return programmes to ensure that they are recycled or disposed of appropriately. An extra environmental fee/deposit could be included in the cost of batteries and repaid to the customer when the battery is returned.

Decisions regarding electricity tariffs need to be made free of political interference to ensure that utilities can recover the total costs of production, including capital replacement costs. Without cost reflective electricity tariffs, there is not much incentive to conserve energy and be energy efficient. In addition, without cost reflective electricity tariffs, there will be a lower financial return on every investment made in energy conservation, energy efficiency and renewable energy. Power utilities should also regularly review the costs of electricity supply and set tariffs accordingly, as well as ensure that the application of subsidies is transparent to all stakeholders.

However, the influence of incumbent energy utilities and petroleum companies needs to be managed carefully, especially if governments are heavily reliant on revenues from taxing petroleum products, so that the transition to a cleaner energy system is not frustrated by utilities and companies that have vested interests and hold significant market power. Governments need to communicate and implement clean energy policies, along with the associated legal and regulatory frameworks, to minimise political interference and the dominance of incumbent monopolistic power utilities.

Electricity tariffs should only be subsidised or cross-subsidised for genuine lifeline and livelihood reasons, and not for political gain. Lifeline tariffs should be targeted to low-income earners (means tested) and targeted to a consumption rate that only meets essential needs, to avoid subsidising excessive users of energy. Excessive users should pay more for their usage, which can also cross-subsidise lifeline tariffs. In addition, larger customers could be charged a levy to fund renewable energy and rural electrification. The funds from this levy could be incorporated into an energy access/national climate fund, which would also receive contributions from the government, donor aid agencies, individuals, and others (see section 9.6.7).

9.6.5 Focusing on energy efficiency

There is generally a low level of awareness and policy response for improving energy efficiency in the Pacific. The following are some practical examples of actions that can be implemented to improve energy efficiency.

To ensure that energy consumption in buildings constructed in urban and rural areas is minimised, authorities should consider establishing or reviewing national building codes to incorporate requirements for higher energy efficiency standards. Climate resiliency should also be included to ensure that these energy efficient buildings are located away from rising sea levels, storm surges and floods, and can withstand cyclones. These could be mandatory for new homes. If it is difficult to establish or change the building code; as a start, an energy efficiency programme could be established to influence these changes. To rapidly achieve compliance with new codes and encourage this investment, grants and/or concessionary finance could be offered for new and retrofitted buildings.

Governments could also undertake a replacement/retrofit programme in government buildings to promote energy efficiency in the public sector and as a platform for demonstrating the feasibility of energy efficiency projects. The private sector could be involved in the replacements and retrofits. Strengthening the enabling environment for private sector energy efficiency auditors and energy service companies to undertake energy efficiency assessments and projects is also important.

Innovative financing solutions to encourage energy efficiency and renewable energy should also be considered. For example, Palau established the Palau Energy Efficiency Programme to encourage energy efficient housing (see Box 9.1). This programme could be replicated in the Commonwealth Pacific small states. Similar programmes could be extended to small businesses, as well as complement the review and upgrade of building codes and regulations. Provident funds that allow early access to pension funds for housing loans could also be made conditional on incorporating energy efficiency design or measures. These alternative initiatives demonstrate a way of encouraging energy efficiency without mandatory policies or building codes in place.

In addition, current energy labelling and minimum energy efficiency programmes should be scaled up, with the aim of eventually extending them to all imported electrical appliances and industrial equipment. A list of approved energy efficient appliances could be developed to better inform consumer purchasing choices. A

Box 9.1 Palau Energy Efficiency Subsidy Programme

As a result of rising electricity tariffs in Palau, which had the potential to adversely impact home loan repayments, the National Development Bank of Palau (NDBP) developed the Energy Efficiency Subsidy Programme. Under this Programme, homeowners received grants of up to US$6,000, deducted from their loans, for incorporating energy efficient measures into their homes, such as east-west orientation, white roofs, radiant barrier insulation under roofs, tinted windows, shading, ceiling fans, energy efficient lighting, and solar or instantaneous hot water systems.

NDBP reported more than 100 participating homes, with energy savings at an average of 38 per cent (the target was 15%). Following the adoption of the programme by the Palau Housing Authority, every new housing loan in Palau is eligible for the grant. The programme was later revised to include existing houses and for loans for solar PV.

Source: IUCN 2016

'rebate and turn in' programme could be established to increase the market for private sector companies that produce or distribute the most energy efficient appliances (e.g. white goods, air conditioners, solar hot water) and by replacing old, inefficient equipment (e.g. machines and power generation) with new more efficient equipment, e.g. in the tourism and manufacturing industries.

9.6.6 Prioritising the transport sector

While addressing the energy consumption of the transport sector is covered in regional and national responses, there has been little progress in advancing solutions. Given the significant amount of fossil fuels consumed in the transport sector and the lack of action in achieving solutions in this area, this area needs greater focus if the Pacific is to achieve the SDGs by 2030 and become an energy secure region by 2050.

Governments and development partners need to be made more aware that land and sea transport needs attention so that whole-of-sector strategies to reduce fossil fuel consumption can be developed to encourage direct investment in improving transport efficiency.

For those Commonwealth Pacific small states where land transport comprises a significant part of energy consumption (Fiji, Samoa, Tonga and Vanuatu), public transport and non-motorised transport (cycling and walking) should be promoted, including developing appropriate traffic and freight management plans for major urban centres to improve traffic flow, deal with traffic congestion and reduce vehicle emissions, noise and travel time. The possibility of having clear ways during peak periods (e.g. bus priority/rapid transit lanes) should be explored, with upgraded intersections and bus stops, cycle lanes and footpaths, undertaking traffic impact

assessments for new development and ensuring pedestrian safety. Incentives such as concessional or guaranteed lease financing of efficient buses could be used.

To reduce the dependency on fossil fuel, car import regulations could be established to ensure that only the more energy efficient vehicles are imported using the cleanest fuel, as well as ensuring cars currently on the road that are not well maintained, or are too polluting, are serviced or removed from the roads. Any extra cost of a more energy efficient vehicle is likely to be repaid through fuel savings in the average life use of the vehicle. This could be achieved by enforcing age limits on all second-hand vehicles (e.g. five years and less) and by providing incentives for importation of new vehicles with better and more fuel efficient engine technologies, and for subsequent servicing and repair.

Commonwealth Pacific small states should also closely follow the adoption of electric vehicles in other small states. For example, Barbados is making strong progress towards the use of cleaner, more efficient vehicles, including use of electric vehicles. However, Commonwealth Pacific small states are expected to adopt electric vehicles at a slow and incremental rate, similar to the trends in surrounding developed countries, e.g. Australia, New Zealand, Japan and the United States. Limited financial resources and lack of supportive infrastructure are expected to hinder rapid adoption and deployment of electric vehicles in the Commonwealth Pacific small states.

However, authorities could consider introducing Euro 4[31] standard fuel and vehicles, and incentives to comply with Euro 4 fuel standards, including the setting up of relevant infrastructure and a review of fuel prices. As Fiji is the major regional petroleum distribution hub in the Pacific, where fuel is bunkered before being transported on smaller ships to other countries, a change of fuel standards in Fiji would influence outcomes in downstream countries. Fiji currently uses Euro 2 standard fuel (Australia is on Euro 5 and 6) but could reduce emissions by raising the standard to Euro 4. Euro 5 is likely to be cost prohibitive at this stage as it requires the use of diesel particulate filters.

Renewable energy for marine transport is not included in the FATS, and although transport is included in some of the NDCs, there are no transport targets set for any of the nine Commonwealth Pacific small states (Goundar 2016). This is a significant omission which should be rectified by regional and national stakeholders.

9.6.7 Sustainable financing for energy

With national energy policies, renewable readiness assessments, national energy road maps, national climate change policies, national development strategies and plans that all deal with the energy sector in some form or another, there is growing potential for confusion, fatigue, duplication, and ultimately uncertainty by investors as to what a nation's current strategy and goals are at a particular point in time. Furthermore, despite national political will, all NDCs rely on obtaining external funding and many do not necessarily quantify the costs of the total investment needed or delineate how the intended actions will be achieved.

Development partners are likely to continue to provide energy financing and Commonwealth Pacific small states should continue to work with all their partners on this front. However, anecdotally, there is still likely to be a significant gap in the finances and resources that are needed to achieve the NDCs and SDG 7 by 2030. At the regional level, regional institutions need more financing to operate with a long-term view, and not from a project to project, programme to programme basis. At the national level, governments need more financing to supplement current inadequate budgets in place for the energy and related sectors.

Climate financing options for energy solutions are likely to take a greater role in the future, especially as it is envisaged that the Green Climate Fund (GCF) will provide US$100 billion annually. Some of the activities that are likely to be eligible for climate financing include renewable energy, lower-carbon and efficient energy generation, energy efficiency, transport, and low carbon technologies, as well as adaptation activities that ensure the resiliency of energy systems and supporting infrastructure. Therefore, Commonwealth Pacific small states should co-ordinate their climate finance strategies with their energy initiatives, including meeting GCF guidelines to ensure that they are able to secure funding for energy projects under the GCF.

In addition, Commonwealth Pacific small states could consider establishing a National Climate and Energy Fund that would serve as a central repository for GCF funds and other sources of energy financing, including ODA to the energy sector. The Fund would require significant donor engagement and consultation and an initial injection of funds to be operationalised. Other revenue raised from excise taxes, levies or import duties on inefficient appliances and vehicles, and/or equipment to generate electricity from fossil fuel, 'green fees', tourist fees, carbon offset charges could support the capitalisation of the fund, and it could act as a revolving fund.[32] It could also include an interface for crowdfunding.[33] The Fund could provide a good mechanism for sustainable, long-term, transparent and predictable sources of climate/energy finance if given clear objectives, a strong and effective governance structure that protects the investments, and measures to ensure that volatile returns are managed.

Operationally, the Fund could be kept in a trust account with a commercial bank or the Government, e.g. at the Ministry of Finance, for reasons of transparency. Strong governance and accountability mechanisms, as well as prudent financial management practices, can help limit macroeconomic and governance risks. The Government or an independent agency would then disseminate these funds, based on appropriate criteria, to government departments, businesses, non-government organisations, community groups and individuals to implement energy efficiency, renewable energy and energy access projects. With a central repository, the government would be able to better monitor the overall financial envelope for climate and energy projects.

Moreover, the National Fund could provide finance for an energy/climate access investment facility, with a concessional interest rate or full/partial guarantee through development and commercial banks. This could be supplemented with a small grants programme with simple administrative requirements. Furthermore, the National Fund could provide an insurance facility to manage the risks of climate change induced disasters on energy sector, and supporting, infrastructure.

In other innovative financing mechanisms, authorities could enforce a renewable energy loans ratio, that requires all commercial and development banks to allocate a minimum percentage of their deposits, and similar liabilities, in loans to the renewable energy sector, such as the system in place in Fiji. Authorities could also develop climate/green energy bonds for large-scale (and capital-intensive) sustainable energy projects. In addition, sovereign wealth and national provident funds could be used for similar projects. Public-private partnerships are also another option although there is some research[34] that suggests that PPPs can be an expensive way for governments to invest in infrastructure.

To mitigate the perceived financial risks in energy projects, authorities should ensure environmental regulations are in place, develop green credit ratings, and improve environmental risk disclosure and analysis to guide investor behaviour.

9.7 Looking to 2050

There are many challenges for the Commonwealth Pacific small states to overcome to achieve a sustainable low carbon pathway. The region has shown leadership in ratifying international climate agreements. Action in the energy sector to ensure sustainability is tied very closely with action on climate change. There are many co-benefits of climate change action that flow to the energy sector, which include access to clean and safe sources of energy and ensuring climate-resilient infrastructure. If the identified responses, solutions and contributions to combating climate change (NDCs) can be financed and implemented at the same time as extending access to energy to all of their populations, Commonwealth Pacific small states will achieve real independence through energy and economic security.

Integrating climate change and energy planning through national planning and budget processes and sourcing finance for projects and programmes that decouple development from a dependency on fossil fuels by harnessing local renewable energy sources and maximising energy efficiency are fundamental to achieving these objectives. Building local employment capacity to undertake these tasks, and reducing the need for imports, especially through local food production, will also assist in strengthening the economy and reducing fuel import bills. If this is done in an incremental way that adopts and integrates emerging technologies at the appropriate times, using a flexible approach that accounts for the topography, remoteness, culture, economic cost, and willingness and ability of energy consumers to pay, then many of the ambitious national energy targets may be realised. It should also ensure that there is a healthy, educated, trained and mobile workforce equipped to support this modern energy system, and a modern energy system that supports a healthy, educated, and vibrant population.

Ultimately, this will mean increased energy security, economic independence and increased standards of living, which will contribute to achieving the Pacific Islands Forum Leaders' Vision under the Framework for Pacific Regionalism (PIFS 2014):

> *Our Pacific Vision is for a region of peace, harmony, security, social inclusion, and prosperity, so that all Pacific people can lead free, healthy, and productive lives.*

However, whether the current regional and national responses will be sufficient to achieve SDG 7 or many of the NDCs by 2030 or even 2050 will depend on several factors. Increases in energy efficiency will reduce the renewable energy required, while increases in the renewable energy to total energy mix will reduce the amount of fuel imports, as long as the renewable energy targets are maintained. However, the latter is dependent on population growth, which will drive energy demand. Given these factors, three possible scenarios can be envisaged:

1. In a 'business as usual' scenario with current population growth, continued migration to urban areas, growing energy demand, and little improvement in regard to access, energy efficiency and renewable energy, Commonwealth Pacific small states will increase fuel imports and become more dependent on petroleum, increase their vulnerability to macroeconomic impacts (GDP decline), and generate greater GHG emissions.
2. In a scenario with moderate population growth, some migration to urban areas and other countries outside the Pacific, subdued energy demand, and some improvement to access, energy efficiency and renewable energy, Commonwealth Pacific small states are likely to moderately lower their dependence on petroleum, mitigate macroeconomic impacts to some extent and generate moderate levels of GHG emissions.
3. In the more optimistic scenario of maintaining population at current levels, including urban and rural population ratios, some migration to neighbouring states, reduced energy demand, and escalated action on access, energy efficiency, and renewable energy, Commonwealth Pacific small states will significantly lower their dependence on petroleum, have greater economic independence (GDP increase), and will achieve SDG 7 and the NDCs.

Based on the current trajectory, Commonwealth Pacific small states are likely headed for Scenario 1. Current responses are also unlikely to be sufficient to result in Scenario 3. This is because even though energy targets, policies and NDCs are in place, there is not enough financing to achieve these targets. If financing is secured, Commonwealth Pacific small states are likely to realise Scenario 2, while moving towards Scenario 3. However, to fully achieve Scenario 3, there needs to be a more concerted effort and more financing than currently exists, particularly to scale up and/or develop effective solutions for cleaner transport, energy conservation and efficiency, and to build institutional and technical capacity.

9.8 Recommendations

Based on the gaps highlighted earlier, the following policy options are recommended to assist Commonwealth Pacific small states to shift towards lower fuel dependence, greater economic independence and achievement of the NDCs and SDG 7 of access to affordable, reliable, sustainable and modern energy for all. While many of the recommendations may not be new, they highlight the need for renewed and continued efforts to ensure that the appropriate policy responses result in scaled up action and improved implementation and outcomes.

9.8.1 Energy security and co-ordination

Strengthen co-ordination, share experiences (Pacific, small states, south-south, north-south) and use the period of low oil prices and low interest rates by investing in energy efficiency and renewable energy. Ensure that the energy sector genuinely engages women and youth, and effectively supports other sectors of the economy, such as energy for education, health or water.

9.8.2 Information on energy

Continue efforts to improve information collection, collation and dissemination through SPC, SEIDP and the PRDR. Devise a way of ensuring that the PRDR is sustainable. Enhance capacity-building initiatives for national collection of energy data. Regularly update regional and national energy policies, ensuring they are easily accessible.

9.8.3 Institutional and technical capacity

Build the capacity of project developers and the financial industry. Incorporate energy sector studies, finance, and project management in curricula (including online/distance education), and foster the growth of the PCREEE and SEIAPI. Build the capacity and encourage the use of private sector energy efficiency auditors and energy service companies. Strengthen regional and national energy institutions and ministries, ensuring that they are well governed, sustainably funded and have sufficient human resources to implement their energy sector strategies, policies and plans. There is also a need to maximise the opportunities for accessing available energy and climate finance. In addition, development partners should strengthen existing capacity-building processes, such as SEIAPI and PacTVET, by mandating the use of these processes in their projects and programmes.

9.8.4 Electricity supply, access and tariffs

Ensure that electricity tariffs are cost reflective, cost efficient and fair. In addition, ensure that electricity tariffs can accommodate lifeline tariffs for the most vulnerable, encourage energy conservation and efficiency, and provide investment signals. Electricity tariffs should also allow energy service providers to recover the full cost of the services they provide, including the use of flexible payment methods, such as prepayment meters, mobile phones, and the internet, to improve cost recovery. Electricity bills should include explanations on the full cost of supply, subsidies and any other relevant information for transparency, as well as to raise consumer awareness.

Establish efficient, resilient and reliable electricity grids that are economically and technologically appropriate. Formulate legal and regulatory frameworks that allow the integration at the appropriate time of emerging technologies (e.g. smart grids, electric vehicles, battery storage, biofuels, geothermal and marine energy) that are proven and commercially viable. Develop consistent guidelines and technical standards/testing. Continue grid stability studies, closely monitor smart grid developments elsewhere, and maximise the amount of solar PV in electricity grids.

Develop an integrated rural energy supply that provides grid extensions, and/or decentralised mini- or microgrids, solar PV home systems, plug and play systems and/or other emerging technologies that are proven and commercially viable. Account for the culture, topography and remoteness of target locations, as well as the economic costs of each system, and the willingness and ability of consumers to pay. Ensure that there is a management model in place that recovers sufficient fees to pay for the sustainable operation and maintenance of these systems.

9.8.5 Energy efficiency

Encourage an efficient, affordable, clean energy system that provides access to appropriate modern energy services according to the circumstances and remoteness of consumers. Develop national building codes based on tropical architecture design, with strong energy efficiency and resiliency measures. Consider housing loan programmes that encourage energy efficiency, replacement, retrofit, rebate and turn-in programmes, and extend energy efficiency labelling programmes to all appliances.

9.8.6 Energy for transport

Prioritise and rebalance efforts to target energy use in the transport sector, which has been largely absent from regional and national responses. Develop an efficient, affordable and cleaner transport system that is flexible enough to adopt and integrate, at the appropriate time, new transport technologies (e.g. efficient and/or electric vehicles, cleaner fuels, efficient ships utilising renewable energy) that are proven and commercially viable. Review import regulations and taxes to promote imports of energy efficient cars, and introduce improved fuel standards. Closely monitor international aviation and shipping emission agreement negotiations, and electric vehicle developments.

9.8.7 Gender perspectives

Greater efforts are needed to ensure that gender perspectives are genuinely accounted for in energy sector planning, budgeting, implementation, and monitoring and evaluation processes, rather than cursory references in policies and documents.

9.8.8 Development approach and finance

The energy sector should be developed incrementally rather than radically. Picking any single technology 'winner', e.g. electric vehicles, marine energy, biofuels or offshore wind, should be avoided. Instead, there should be a greater focus on energy efficiency, so as to reduce total energy consumption, the cost of the fuel import bill, and the capacity and cost of the additional investment in renewable energy required to displace the remaining fossil fuel consumption. Lower-risk commercially viable and proven technologies and measures, such as replacing refrigeration and cooling with newer and more efficient equipment and maximising solar PV, should be preferred.

Governments should continue to lead by example, providing the strategic policy signals and frameworks for investment in clean energy and improving energy access. Governments should also provide an enabling environment for the private sector

to engage in clean energy practices, as well as adopting best-practice public-private partnerships. In addition, governments should incorporate the SDGs and NDCs into planning and budget processes, undertake green procurement and energy efficiency retrofits, and install solar PV on government buildings using the private sector.

Ensure that there is resilient supporting infrastructure, e.g. roads, ports, buildings, ICT, and water, etc., that is adapted to the impacts of natural disasters and climate change to enable efficient energy supply chains, transport of maintenance staff and replacement parts, and access to markets.

Quantify the financing required to meet the SDGs and NDCs. Develop clear project and programme pipelines based on the NDCs. Continue working with multilateral and bilateral development partners. Strengthen co-operation and co-ordination to better access energy and climate finance. Establish national energy and climate funds. Encourage sovereign wealth, national provident, and foreign pension funds to invest in sustainable energy systems. Consider energy efficiency/rural electrification/renewable energy loan ratios and levies.

Notes

1 This chapter benefited from valuable comments from UNDP (Thomas Jensen), the University of the South Pacific (Associate Professor Atul Raturi), the Secretariat of the Pacific Community (Solomone Fifita) and the Commonwealth Secretariat (Resina Katafono, Denny Lewis-Bynoe, Motselisi Matsela and Naadira Ogeer).

2 See United Nations Sustainable Development Goals 7, 9 and 13: https://sustainabledevelopment.un.org/sdg7, https://sustainabledevelopment.un.org/sdg9, and https://sustainabledevelopment.un.org/sdg13 (accessed 27 November 2016).

3 See Paris Agreement - Status of Ratification (UNFCCC), at http://unfccc.int/paris_agreement/items/9444.php

4 Small states are classified by the Commonwealth as sovereign states with a population size of 1.5 million people or less. Papua New Guinea is designated as a small state because it shares many characteristics of a small state.

5 Kiribati, Solomon Islands, Tuvalu and Vanuatu are also least developed countries which are defined by the United Nations as countries experiencing extreme poverty, structural economic weaknesses, lack of growth capacity, and exposure to external economic shocks, natural and man-made disasters and communicable diseases (See http://unohrlls.org/about-ldcs/). The UN General Assembly decided to extend the preparatory period before graduation for Vanuatu by three years, until 4 December 2020, due to the unique disruption caused to the economic and social progress of Vanuatu by Cyclone Pam (See https://www.un.org/development/desa/dpad/tag/vanuatu/).

6 Within these smaller countries, the effects tend to be higher at lower incomes (PFTAC, 2010).

7 Additional flows of foreign currency are needed to replace the increase in hard currency needed to pay the import bill. This may come from other areas of the current account – from tourism receipts, grants from development partners or private remittances. If this is not forthcoming, countries must draw on foreign savings - through foreign direct investment or borrowing. Pacific Island Countries and Territories (PICTs) generally aim to keep reserves that cover at a minimum 3–4 months of imports. Declining reserves can also affect the availability of credit and interest rate levels in countries as declines in foreign reserves deplete banking sector liquidity (PFTAC 2010, 5–6).

8 As advised by the Secretariat of the Pacific Community (SPC).

9 This was formerly the CROP Energy Working Group and it may soon change its name to the CROP Energy Security Working Group (CESWG).

10 PICTs include the nine Commonwealth Pacific small states plus Cook Islands, Federated States of Micronesia, Niue, Republic of the Marshall Islands and Palau, as well as the territories of American

Samoa, French Polynesia, Guam, Northern Mariana Islands, Pitcairn Islands, Tokelau, and Wallis and Futuna.

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