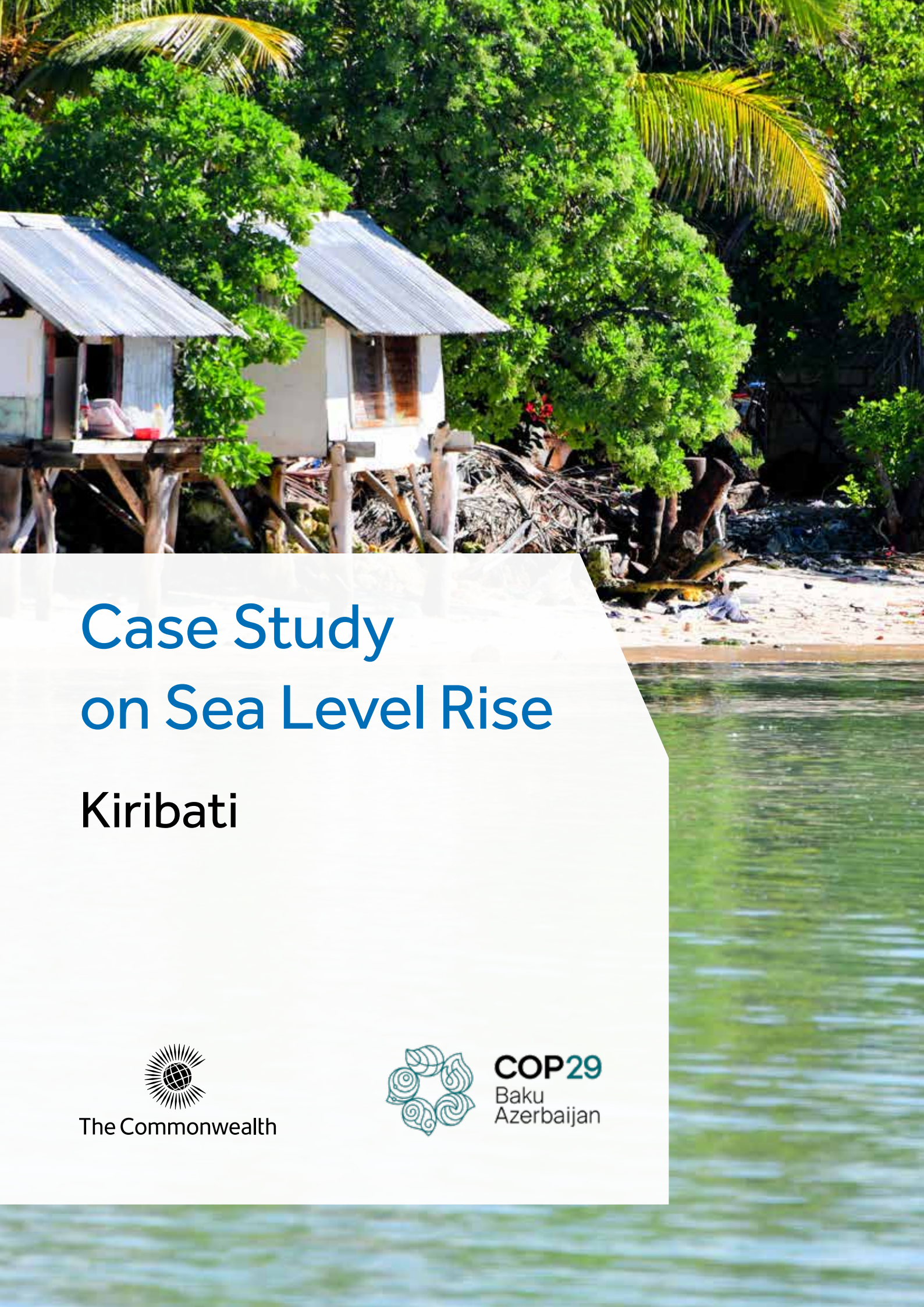




Case Study on Sea Level Rise

Kiribati



The Commonwealth



COP29
Baku
Azerbaijan

Case Study on Sea Level Rise

Kiribati

Financial support for the preparation of this report was provided by COP 29. The Commonwealth Secretariat gratefully acknowledges this contribution.

Suggested citation: Commonwealth Secretariat (2026), *Case Study on Sea Level Rise: Kiribati*, <https://doi.org/10.14217/rwng3605>

© Commonwealth Secretariat 2026

Commonwealth Secretariat
Marlborough House
Pall Mall
London SW1Y 5HX
United Kingdom

www.thecommonwealth.org

All rights reserved. This publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording or otherwise provided it is used only for educational purposes and is not for resale, and provided full acknowledgement is given to the Commonwealth Secretariat as the original publisher.

Views and opinions expressed in this publication are the responsibility of the author and should in no way be attributed to the institutions to which they are affiliated or to the Commonwealth Secretariat.

Wherever possible, the Commonwealth Secretariat uses paper sourced from responsible forests or from sources that minimise a destructive impact on the environment.

Published by the Commonwealth Secretariat.

Contents

Acronyms and Abbreviations	v
About the Commonwealth	1
Executive Summary	2
Country Profile	3
Geography, climate, and natural hazard profile	3
Population and demographics	3
Economic context	4
Governance and institutional structure	5
Sea Level Rise in Kiribati	6
Local sea level rise observations (tide gauge data, satellite altimetry)	6
Projected local sea level rise	6
Contributing factors (subsidence, coastal erosion, land use change)	6
Impacts and Vulnerabilities	8
Coastal communities and human settlement	8
Agriculture and food security	8
Fisheries and marine resources	8
Coastal ecosystems (mangroves, coral reefs, wetlands)	8
Infrastructure and critical services	9
Economic costs and risks	9
Policy and Governance Framework	10
National policies and strategies (NAPs, NAPAs, NDCs)	10
Legal and institutional framework	10
Sub-national and local governance	11
Adaptation Measures	12
Coastal protection (hard infrastructure)	12
Ecosystem-based adaptation	12
Accommodation and resilience building	12
Planned relocation and retreat	12

Climate finance and funding mechanisms	12
Assessment of Adaptation Effectiveness	14
Comprehensiveness and inclusiveness	14
Implementability and integration	14
Monitoring and evaluation	15
Lessons Learned and Exemplars of Good Practice	16
Recommendations	18
Conclusions	19
References	20
Annexes	22
Annex A. Country dashboard	22
Annex B. Legislative and policy framework summary	24

Acronyms and Abbreviations

AOSIS	Alliance of Small Island States
A\$	Australian dollars
EbA	ecosystem-based adaptation
GDP	gross domestic product
GEF	Global Environment Facility
HIV/AIDS	human immunodeficiency virus / acquired immunodeficiency syndrome
KAP	Kiribati Adaptation Programme
MIRAB	migration, remittances, aid and bureaucracy (economy)
NAPA	National Adaptation Programme of Action
NASA	National Aeronautics and Space Administration
NDCs	Nationally Determined Contributions
SIDS	small island developing states
SLR	sea level rise
SPREP	Pacific Regional Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

About the Commonwealth

The Commonwealth is a voluntary association of 56 independent and equal sovereign states and home to 2.7 billion people. The Commonwealth Secretariat is an independent organisation working with the 56 member countries and assists them together to promote prosperity, democracy and peace, amplify the voice of small states, and protect the environment.

The Commonwealth Secretariat's Climate Change and Oceans Directorate assists its member countries to sustainably manage their natural resources, in the ocean and on land, for the benefit of present and future generations. The Secretariat provides technical assistance and supports member countries in the development of policies, laws, and strengthening national institutions.

Executive Summary

This case study examines the effectiveness of adaptation measures to sea level rise in Kiribati, with a particular focus on infrastructure interventions. Kiribati comprises 32 atolls scattered over 3.5 million square kilometres (km²) of ocean with a total land area of only 811km². The islands are low-lying coral atolls with nutrient-poor soils, limited freshwater resources and high dependence on marine resources for food security.

Kiribati began engaging with climate change adaptation in the mid-1990s, following its ratification of the United Nations Framework Convention on Climate Change (UNFCCC) in 1995, and was an early member of the Alliance of Small Island States (AOSIS). Early assessments highlighted the potential economic consequences of climate change: a World Bank-funded vulnerability and adaptation study undertaken around 1999–2000 estimated that, by 2050, in the absence of adaptation, Kiribati could experience economic damage of approximately US\$8–16 million per year, equivalent to 17–34 per cent of its 1998 gross domestic product (GDP) (World Bank, 2000).

The country's primary adaptation vehicle has been the Kiribati Adaptation Programme (KAP), a three-phase initiative that operated from 2002 to 2016. KAP I (2003–2005) focused on mainstreaming adaptation into national economic planning through extensive consultations, identifying ten priority areas for adaptation. KAP II (2006–2008) piloted adaptation actions including water and sanitation improvements, while KAP III (2009–2016) scaled up investments to cover all major islands and vulnerable sectors.

Key challenges identified include limited institutional and technical capacity, heavy reliance on international aid and foreign technical expertise, donor fragmentation, urban overcrowding on South Tarawa, and the constraints of a 'migration, remittances, aid and bureaucracy' (MIRAB) economy. This case study highlights the importance of government ownership, strong institutional capacity, sound policies, donor co-ordination and improved aid agency practices as essential preconditions for effective adaptation.

While Kiribati's early engagement with adaptation planning is commendable, the evidence suggests that sustained, locally led capacity development, and improved co-ordination between donors and the government, remain critical to the long-term success of adaptation programmes.

Country Profile

Geography, climate, and natural hazard profile

Kiribati comprises 32 atolls scattered over 3.5 million square kilometres (km²) of ocean with a total land area of only 811km². The islands fall into three groups; the Gilbert, Line and Phoenix Islands (Figure 1). Of the 21 inhabited islands, most of the population of approximately 136,500 is concentrated on the 17 islands of the Gilbert group (UN Population Division 2024 Revision).

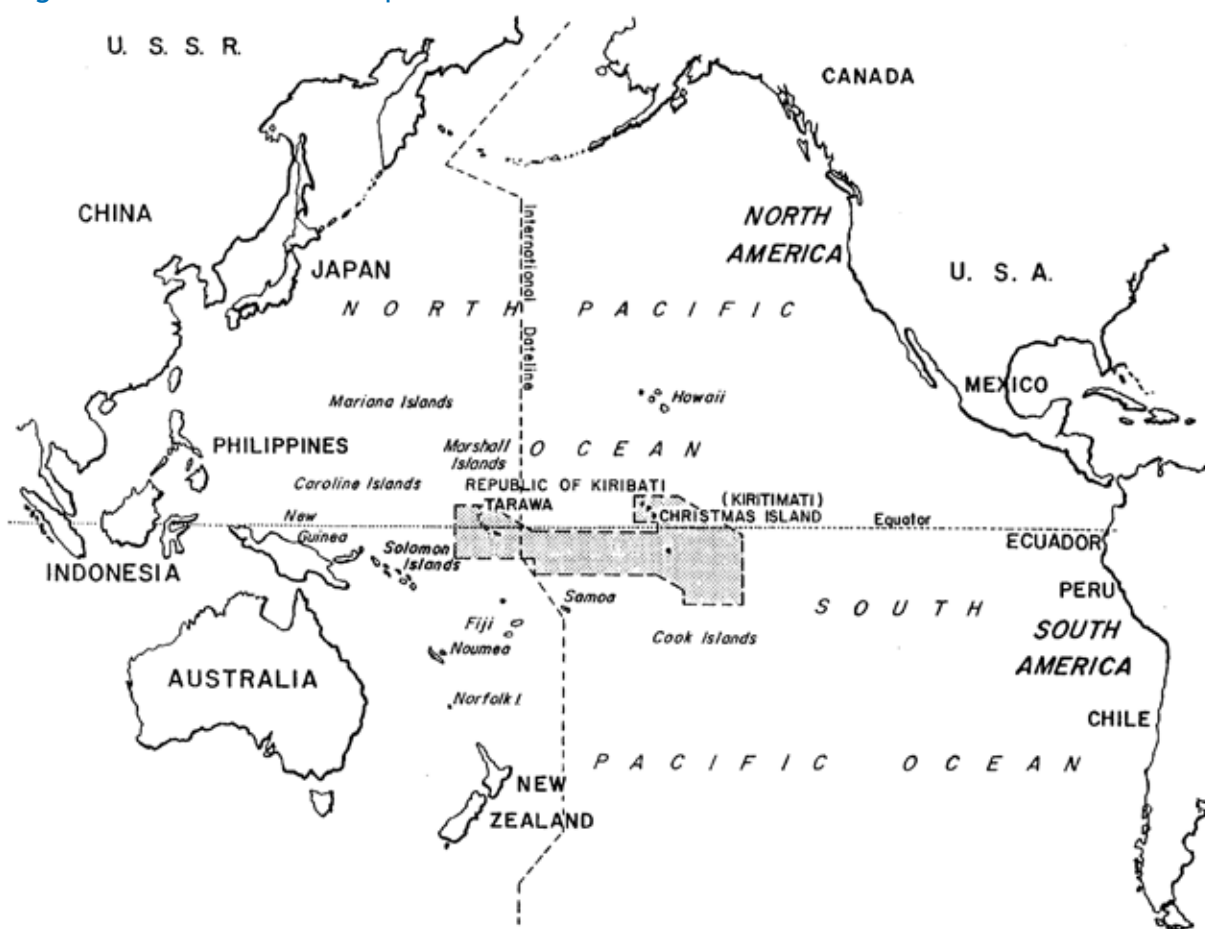
The climate of the islands is generally hot (average 31°C) and humid, but rainfall varies across the islands. In the Gilbert group, the northern islands receive an abundance of rainfall and are therefore more fertile, while the central islands have average rainfall (1,956mm in Tarawa) and the southern

islands often suffer from droughts. These variations in rainfall have shaped the cultural identities of the I-Kiribati and are discussed in the section that follows.

Population and demographics

The I-Kiribati who earn a regular wage (that is, approximately 23 per cent) are mostly employed in the public sector but, given the stable nature of these jobs, limited vacancies arise to meet the demands of the growing population. With only 450–500 jobs becoming available annually for 1,700–2,000 school leavers (Asian Development Bank (ADB) 2002 in Borovnik 2006, 153), underemployment is a serious problem. Some have questioned the need to provide universal secondary

Figure 1. Location of the Republic of Kiribati in the central western Pacific



education in such small island developing states and instead recommend greater investment in vocational training (McKee and Tisdell 1990). Most of the jobs are on the main island of Tarawa, leading to increased migration of outer islanders, particularly the youth, who seek employment opportunities and modern lifestyles. Many of the leading schools and tertiary institutions such as technical colleges are to be found only on Tarawa. Betio is home to more than 17,000 of the estimated 70,000 residents on South Tarawa.

The limited job market in Kiribati motivates many I-Kiribati to migrate overseas temporarily to work as labourers, sailors or nurses. The New Zealand Government also offers permanent residence visas to a limited number of unskilled I-Kiribati (up to 150 I-Kiribati annually). This enables them to send remittances back to the islands to support their families. Incomes earned overseas are approximately three times greater than those earned locally. Borovnik (2006) suggests that an average of six extended family members can benefit from one sailor's remittances, the money being spent mostly on meeting basic needs and school fees. These migrant workers may save some of their salaries to start up small businesses or build western style houses on their return home. Income from remittances makes a significant contribution to the Kiribati economy. Overseas migration may also bring new social problems, particularly HIV/AIDS and especially through returning sailors. As in other parts of the Pacific, HIV infection rates are rising in Kiribati and facilities and resources to address the issue are limited.

Despite the increased attraction of a western type of lifestyle on Tarawa, two-thirds of the population continue to live on the remote outer islands. They follow a semi-subsistence lifestyle of fishing, cutting copra and selling handicrafts. Access to money has led to many outer islanders abandoning their traditional diets in favour of imported foods, sometimes of low nutritional value (for example, tinned foods, including tinned fish). Hence, the number of I-Kiribati diagnosed with diseases such as diabetes has increased. Irregularity in earnings on the outer islands means most householders have limited savings and material goods and live day to day, often depending on remittances from family members in Tarawa or overseas. New opportunities for income generation (for example, seaweed

farming, growing sea cucumber for the export market) have been trialled through international donor funding but these have had limited success.

Economic context

Today, the island economy is referred to as a 'MIRAB' economy: one largely shaped by the combined impacts of migration, remittances, aid and bureaucracy. Such economies characterise many Pacific island countries that are too small to attract normal investments in productive activities. Thus 'the process of socio-economic change has to be viewed in terms of local adjustments to external factors rather than endogenously driven development' (Lawrence 1992, 291). As in colonial times, the central government owns and operates virtually all key sectors of the economy including retailing, banking, manufacturing, hotel operations and shipping (Sofield 2002, 11). Statutory monopolies exist in water, power generation and telecommunications (ibid). Very few opportunities are present for the development of the private enterprise sector.

The Government of Kiribati relies heavily on international aid to support most of its development needs, in particular its capital works programmes. Hughes (2004, 8) points out that the Pacific has received the highest aid per capita of any developing region, but little of that aid has gone to social services. Furthermore, much of the aid received in the past has been tied (that is, most of the funds are ultimately transferred back to the donor nations) with limited consideration of local contexts or community needs. For example, the strong donor support for restructuring Pacific governance systems according to western models has provided greater macroeconomic stability but has created limited income earning opportunities in the private sector (ibid.). A significant portion of these funds has been paid to international consultants or contractors whose skills are needed to fill the gaps in the technical knowledge of the Pacific islanders. In response to criticisms, development is now being approached with caution in an attempt to place I-Kiribati development goals at the centre and ensure local rather than international expertise is initially sought.

Governance and institutional structure

Limited institutional development and capacity within developing countries can constrain the delivery of aid (Cling et al. 2002). Thus, donors have traditionally supported piecemeal interventions to alleviate such limitations within government agencies. These have mainly been delivered through technical assistance projects that send foreign technical experts to evaluate organisational procedures, train local staff, and to strengthen organisational structures and inter-organisational relationships. While donor support for technical assistance has grown, ensuring effective knowledge transfer to local counterparts remains a persistent challenge – and capacity-building outcomes have not always matched the scale of investment. In the context of Kiribati, where technical capacity is limited, this underscores the importance of sustained, locally led capacity development within adaptation programmes such as the Kiribati Adaptation Programme (KAP).

A sound domestic policy framework that supports an open and competitive economy and invests in basic infrastructure has been shown to contribute to effective use of donor resources (World Bank 1995). Extensive policy research by donors such as the World Bank, as well as their in-country experience, has supported the development of improved policies in many developing countries. Improved public sector management systems and processes in which resources are clearly tied to development objectives are also essential. Often, constraints such as limited resources for operations and maintenance, domestic politics, lack of analysis of sensitivity to shocks, and unproductive expenditures contribute to unsustainable aid-financed projects. Thus, an institutional environment that provides incentives for efficient implementation of donor projects may improve the effectiveness of donor funds (Keohane 1996).

Aid co-ordination among donors, institutions within recipient countries, and between donors and recipients are all essential preconditions for ensuring effective adaptation measures (World Bank 1995). Recipient countries may prefer to deal with multiple donors as they may be able to gain access to greater funding for specific sectors. In contrast, donors may take advantage of weak institutional capacity of recipient governments and impose programmes that support their own agendas. Conflicts in interest and perspectives between implementing agencies such as the World Bank, United Nations Development Programme (UNDP) and the UN Environmental Programme (UNEP) have in the past undermined the political legitimacy and operational effectiveness of Global Environment Facility (GEF)-financed environmental projects (Keohane 1996). Donor fragmentation can also impose administrative burdens on recipient governments, who are often resource stretched. Chissano (2007) warns that dealing simultaneously with multiple donors frequently results on overemphasis on the process rather than the content of the policy dialogue between the government and donors.

Sea Level Rise in Kiribati

Local sea level rise observations (tide gauge data, satellite altimetry)

Sea level monitoring in Kiribati relies on both tide gauge records and satellite altimetry data. The Betio tide gauge, located on Tarawa Atoll and managed by the Australian Bureau of Meteorology through the Pacific Sea Level Monitoring (PSLM) project, has been operational since 1993. Analysis of the Betio tide gauge record indicates a relative sea level rise (SLR) trend of approximately 3.9mm per year between 1992 and 2008, although the short length of this record limits confidence in long-term trend estimates. Longer tide gauge records from Kiritimati (Christmas Island), managed by the University of Hawaii, provide additional context, though these stations are located approximately 3,000 km from Tarawa. Satellite altimetry data collected since 1993 indicate that the three island groups comprising Kiribati have experienced sea level rise of approximately 5–11cm over the past three decades, broadly consistent with global trends but influenced by regional variability associated with the El Niño–Southern Oscillation (ENSO) cycle. A NASA (National Aeronautics and Space Administration) Sea Level Change Team assessment (2024), undertaken at the request of Pacific island nations including Kiribati, confirmed that these islands face significant and rapidly increasing flood risk as sea levels continue to rise. Regions of Kiribati that currently experience fewer than 5 high-tide flood days per year are projected to average 65 flood days annually by the 2050s.

Projected local sea level rise

Projections for sea level rise in Kiribati are drawn from the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) and from a 2024 assessment by NASA's Sea Level Change Team (IPCC 2021; NASA Sea Level Change Team 2024). By 2050, the islands are projected to experience an additional 15–30cm of sea level rise relative to recent levels, irrespective of future emissions pathways. By the end of the century, depending on future greenhouse gas emissions and the resulting level of global warming, local sea levels could rise by 50–100cm under moderate-to-

high emissions scenarios SSP¹2–4.5 to SSP5–8.5). Under low emissions scenarios (SSP1–1.9), the projected rise by 2100 is 28–55cm relative to 1995–2014 levels. An unlikely but plausible worst-case scenario, incorporating low-confidence ice sheet instability processes, suggests that sea level rise could approach 2m by 2100. At least 15cm of additional rise is now considered irreversible regardless of emissions reductions, owing to the thermal inertia of the oceans and committed ice sheet contributions. Given that the highest points on many of Kiribati's atolls are only 2–3m above mean sea level, even moderate projections pose an existential threat to the habitability of the islands.

Contributing factors (subsidence, coastal erosion, land use change)

Several factors beyond global mean sea level rise contribute to the vulnerability of Kiribati's coastlines. Tarawa Atoll is founded on a volcanic cone rising approximately 4,000m from the surrounding ocean floor. While large-scale tectonic subsidence rates for Kiribati's atolls have not been precisely quantified, localised subsidence driven by groundwater extraction and infrastructure loading is an ongoing concern on densely populated South Tarawa. Coastal erosion is another significant and well-documented challenge, particularly along the ocean-facing shores of South Tarawa. Research by Duvat et al. (2013) documented rapid changes in shoreline position and land use over the period 1969 to 2008. At Bairiki, the built area located within 20m of the shoreline increased by a factor of 4.2 over this period, while at Eita–Bangantebure, it increased by a factor of 32.2, dramatically increasing the exposure of population and infrastructure to coastal hazards. Human-induced land-use changes have further exacerbated coastal erosion. The construction of causeways,

1 Shared Socio-economic Pathways (SSPs) are scenarios used by the IPCC to represent different plausible future trajectories of socioeconomic development and greenhouse-gas emissions. The first number identifies the socioeconomic pathway, while the second indicates the approximate level of radiative forcing in 2100, expressed in W/m². SSP2–4.5 represents an intermediate emissions pathway, while SSP5–8.5 represents a very high emissions pathway.

notably the Nippon Causeway connecting Betio to Bairiki, completed in 1987, has disrupted natural sediment transport patterns, causing accretion in some areas and starvation of beaches in others. Aggregate mining of beach sand and reef materials for construction purposes has also diminished the natural sediment budget of the islands. The combination of rising seas, localised subsidence, human disruption of sediment dynamics and increasing coastal development means that the effective rate of relative sea level rise experienced by Kiribati's communities significantly exceeds the global average.

Impacts and Vulnerabilities

Coastal communities and human settlement

Increased migration to South Tarawa has led to the formation of poor, overcrowded urban settlements such as Betio. Betio is home to more than 17,000 of the 63,439 residents on South Tarawa and experiences social and environmental problems that are endemic to squatter settlements and slums elsewhere – for example, high crime rates, unmanaged waste disposal, depletion of marine resources, alcoholism and gangs.

Agriculture and food security

Soils on the islands are unconsolidated coral debris; they are nutrient poor, with little depth and minimal water retention properties and so can support only limited kinds of vegetation. The main crops across the islands are babai (a type of swamp taro root), coconuts, breadfruit and pandanus. In the northern islands of the Gilbert group, rainfall is much higher and a greater variety of vegetation can flourish.

Fisheries and marine resources

Given the limitations on land, most I-Kiribati use the surrounding lagoon and ocean waters as their supermarket; there is an abundance of marine resources to meet dietary needs.

A major revenue earner for the Kiribati Government is its sale of fishing licences for a vast (3.5 m km²) exclusive fishing zone, which is home to a high percentage of the world's tuna stocks. This is of interest to major fishing nations such as Japan. Recently, the government has reduced the exploitation of tuna stocks by international companies and has introduced greater transparency in licence agreements to ensure that benefits trickle down to the I-Kiribati. Rising temperatures and sea levels associated with climate change threaten the sustainability of the fisheries sector as the coral reefs round the islands (the spawning grounds for marine resources) are suffering bleaching and mortality in some areas.

Coastal ecosystems (mangroves, coral reefs, wetlands)

Kiribati's coastal ecosystems – comprising coral reefs, mangrove forests and seagrass beds – provide essential services for coastal protection, fisheries productivity and carbon sequestration, but are under increasing pressure from both climate change and human activity. Coral reefs surrounding the atolls serve as critical spawning grounds for marine resources and act as natural barriers that attenuate wave energy before it reaches the shore. However, as noted elsewhere in this case study, rising sea temperatures have caused bleaching and mortality in some reef areas. Cannon et al. (2021) documented the impacts of more than a decade of multiple stressors on coral reefs in the Gilbert Islands, finding that while some reefs showed capacity for recovery, the cumulative effects of repeated bleaching events, outbreaks of crown-of-thorns starfish (*Acanthaster* spp.), which feed on living coral, and local pollution posed serious challenges to long-term reef health. Mangrove ecosystems, though limited in extent on Kiribati's low-lying atolls compared to larger Pacific islands, play an important role in stabilising shorelines, filtering nutrient runoff, providing nursery habitat for fish and crustaceans, and buffering coastal communities against storm surges and sea spray. The KAP II (2006–2008) and KAP III (2009–2016) programmes (explored in detail below) supported mangrove planting initiatives on several islands as an ecosystem-based adaptation measure. The country's Environment and Conservation Division has also led community-based mangrove planting programmes on islands including Marakei, Abaiang, Abemama, Nonouti and South Tarawa, with mangrove afforestation proving more successful on outer atolls and the lagoon side of islands. The functional linkages between coral reefs, seagrass beds and mangroves mean that degradation of one habitat type adversely affects the health of neighbouring ecosystems, underscoring the need for integrated coastal ecosystem management.

Infrastructure and critical services

Inequalities in income and life-enhancing opportunities such as access to basic infrastructure persist between outer islanders and Tarawa residents. Most households lack access to piped water, proper sanitation, health facilities and electricity. Many still use traditional wells and kerosene lamps, although a new European Union-funded electrification project has enabled some households to access solar power.

Economic costs and risks

A World Bank regional economic study in 2000 predicted that by 2050 – in the absence of adaptation – Kiribati might experience economic damage of US\$8–16 million a year, equivalent to 17–34 per cent of the 1998 GDP (World Bank 2000). Furthermore, independent studies undertaken by the Kiribati Government projected climate change to have serious impacts on water resources, fisheries, human health and infrastructure.

Policy and Governance Framework

National policies and strategies (NAPs, NAPAs, NDCs)

Kiribati began engaging in formal climate change adaptation planning in the mid-1990s, following its ratification of the UN Framework Convention on Climate Change (UNFCCC) in 1995, and was an early member of the Alliance of Small Island States (AOSIS). Since then, it has developed a number of national adaptation planning instruments, including the Kiribati Adaptation Programme (KAP) and the National Adaptation Programme of Action (NAPA). More recently, as part of its Nationally Determined Contributions (NDCs) under the Paris Agreement, Kiribati developed its Joint Implementation Plan for Climate Change and Disaster Risk Management (2019–2028), which superseded its NAPA. These programmes and planning instruments seek to mainstream climate change adaptation into various sectors to address the long-term (for example, via KAP) and short-term adaptation and disaster risk reduction across sectors, addressing both immediate and longer-term adaptation needs. The KAP was implemented in three phases, with the final phase completed in mid-2016.

Building on earlier vulnerability and adaptation assessments, including the 2000 World Bank Regional Economic Report and subsequent assessments of climate-related risks in Kiribati, the Government of Kiribati, with technical support from the World Bank, developed the KAP. From its inception, adaptation was framed as a development concern rather than solely an environmental issue, requiring high-level political support and integration into national economic planning. The project adopted a risk management approach to reducing vulnerabilities, which involved adapting to both long-term climate change and existing climate variability, as well as natural hazards such as droughts and floods.

Furthermore, adaptation was included in the National Development Strategy (2004–2007), recognising the significance of climate risks to overall development pathways. Concurrently, a Climate Change Adaptation Policy Statement and

Strategy (2005) was adopted to give direction to the national adaptation process. A key outcome was the requirement for highly vulnerable sectors to screen their regulatory frameworks for climate risks and possible adaptations through, for example, reviewing Ministry Operational Plans for climate risks as well as to identify barriers to adaptation. Overall, the process enabled various sectors, such as water resources and coastal resilience building, to integrate potential adaptation measures into their programmes of work.

Legal and institutional framework

The legal and institutional framework governing climate change adaptation in Kiribati has evolved significantly since the country's ratification of the UNFCCC in 1995. The Environment Act, originally enacted in 1999 and replaced by the Environment Act 2021, is the primary piece of environmental legislation in the country. It establishes the roles and responsibilities of the Department of Environment regarding climate change, requires environmental impact assessments for development projects, and provides for the designation of protected areas including marine sanctuaries. The Disaster Risk Management and Climate Change Act 2019 established a national framework for disaster preparedness, climate adaptation and risk reduction, mandating that all government ministries, agencies and bodies integrate disaster risk management and climate change measures into their policies and operations. This Act is notable for being among the first in the Pacific to explicitly link climate change and disaster management with gender equality. The Kiribati Climate Change Policy (2018) provides the overarching strategic framework, anchored in the vision that Kiribati, its people, culture and economy will remain resilient in facing climate change challenges. The policy establishes national priorities across ten sectors and emphasises mainstreaming climate change into development planning, policies and budgeting processes at both the national and local levels. Institutional responsibility for climate change adaptation is distributed across

several agencies, with the Ministry of Environment, Lands and Agricultural Development (MELAD) playing a central role through its Environment and Conservation Division. The Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (2019–2028) provides the operational implementation framework, superseding the earlier NAPA and integrating climate adaptation with disaster risk reduction under a single co-ordinated plan.

Sub-national and local governance

KAP II Component 4: Capacity at island and community level – provided technical assistance to the island councils (i.e. local government) on climate risk management and mainstreaming adaptation into local island plans. It also financed a pilot programme of small-scale adaptation investments in two selected outer islands, implemented directly by communities.

Adaptation Measures

Coastal protection (hard infrastructure)

KAP II Component 2: Land use, physical structures and ecosystems – aimed at reducing the vulnerability of the coastline, including key public assets and ecosystems, by shifting coastal management practices from a reactive approach towards a more preventative and technically diverse approach to risk mitigation.

Ecosystem-based adaptation

Ecosystem-based adaptation (EbA) in Kiribati has centred primarily on mangrove planting as a 'soft' coastal protection measure, complementing the 'hard' infrastructure approaches such as seawalls that dominate engineered coastal structures. Under KAP II, approximately 37,000 mangrove seedlings were planted on several islands under the supervision of the government's Environment and Conservation Division. The KAP III programme extended these efforts to additional islands, including Nonouti, Tabiteuea South, Tabiteuea North and Beru, promoting mangrove planting as both a mitigation and adaptation option.

Mangroves provide multiple co-benefits: they stabilise coastlines and protect shores against erosion; serve as important habitat and nursery grounds for marine species; contribute to the natural carbon dioxide cycle; act as buffers to storm surges and sea spray; and help filter nutrient runoff from land. However, the application of EbA measures depends on site-specific conditions. Mangrove planting is generally more effective on the lagoon side of islands, while hard infrastructure may be required on ocean-facing shores where wave energy is greater. A 2024 pre-feasibility study by O2 Metocean Pty Ltd, undertaken with technical support from the Secretariat of the Pacific Regional Environment Programme (SPREP), assessed priority areas for nature-based solutions across Kiribati, drawing on lessons from previous ecosystem-based measures (SPREP 2025). The preservation and restoration of coral reef ecosystems also constitute an important element of EbA, given the role of healthy reefs in attenuating wave energy and supporting fisheries

productivity. However, direct reef restoration activities in Kiribati remain limited compared to mangrove programmes.

Accommodation and resilience building

KAP II Component 3: Freshwater resources – aimed at reducing the vulnerability of water resources in both urban and rural settings to climate variability and change through technical assistance, development of a new national water policy, public awareness and education activities to promote sustainable water use, assessment of the feasibility of non-polluting sanitation systems, and a community development grant scheme supporting rainwater harvesting and sanitation Improvements on outer islands.

KAP II Component 1: Policy, planning, and information – supported three core elements of all adaptation efforts in Kiribati: awareness raising and consultation; policy co-ordination and planning; and strengthening national capacity to generate and use scientific information on climate risks.

Planned relocation and retreat

Many Pacific Island communities are already experiencing the impacts of climate change and sea level rise (SLR). Small island developing states (SIDS) such as Tuvalu and Kiribati have made arrangements to relocate to neighbouring countries that include New Zealand and Fiji if their islands were to disappear under the rising seas. However, for most Pacific islanders, adaptation rather than relocation is preferable, as it would allow people to maintain their cultural rights, basic dignity and their way of life on their islands (Mortreux and Barnett 2009)

Climate finance and funding mechanisms

KAP I activities were funded by the Japanese Government, by a grant from the Global Environment Facility (GEF) Project Development Fund and by a NAPA grant from the Least Developed Countries Fund.

The main funding for KAP II came from the Government of Kiribati and the GEF Strategic Priority on Adaptation Fund. Since the commencement of KAP II, bilateral donors have co-financed various components of the project. For example, Australian Aid financed many of the adaptation initiatives for the water sector.

Funding for KAP III came from one or more of the adaptation funds under the UNFCCC GEF funds (the Least Developed Countries Fund), Australian Government aid and the Global Facility for Disaster Reduction and Recovery. In 2022, the World Bank approved the US\$20 million Kiribati Outer Islands Resilience and Adaptation Project, building on the KAP legacy to invest in community-level climate resilience measures across all 20 island councils (World Bank 2022).

Assessment of Adaptation Effectiveness

Comprehensiveness and inclusiveness

Understanding the effectiveness of adaptation in Kiribati requires examining not only the technical dimensions of climate interventions but also the broader institutional and aid delivery context in which they operate. Literature related to the impact of foreign aid and its effectiveness highlights several basic conditions that are essential for aid to be used effectively by both donors such as World Bank and recipients. These conditions provide an analytical lens through which to view formal adaptation programmes and include (World Bank 1995): ownership by government and participation by the affected people; strong administrative and institutional capacity; sound policies and good public sector management for the effective use of resources; close co-ordination by donors; and improvements in aid agencies' own business practices.

Development programmes often demonstrate minimal impact when recipient countries and communities perceive programmes as being imposed on them by donors and when they have limited input into the design of programmes (Brainard et al. 2003). Most aid agencies promote 'good governance' as a prerequisite for ownership, in which characteristics such as transparency, public discussion and accountability enable aid to be co-ordinated in-country. Participation in decision-making by various stakeholders, including the most vulnerable groups, is essential throughout the project cycle (that is, planning, implementation and evaluation).

KAP I mainstreamed adaptation into national economic planning via extensive national consultations; assisted with preparation of a National Adaptation Programme of Action (NAPA); and also designed a pilot adaptation project. In addition to trying to galvanise support for adaptation, the national consultations identified ten priority areas for adaptation: awareness, water resources, inundation/coastal erosion, health

impacts, agriculture, family planning, fisheries, waste management, overcrowding and miscellaneous other options.

Implementability and integration

This case study aims to contribute towards filling the knowledge gap regarding the implementation and mainstreaming of adaptations strategies to address the impacts of SLR on coastal infrastructure in Kiribati. It does so by characterising the processes associated with implementing effective measures to build coastal resilience, including their effectiveness in strengthening adaptive capacity through enhanced skills and abilities, and in reducing or altering the impacts of SLR on coastal zones. Although uncertainty remains regarding the optimal design of adaptation programmes, these insights can help guide efforts to strengthen adaptation mainstreaming in Kiribati and other developing nations (Heltberg et al. 2009).

Moreover, given that coastal infrastructure (both hard and soft) is often identified as a critical sector of targeted adaptation programmes, there is a need to understand the broader context influencing sectoral adaptation interventions. Fussler (2007, 261) has remarked that while greenhouse gas emissions can be calculated, '*...measuring the effectiveness of adaptation in terms of future impacts avoided is much less straightforward*'. He further notes that, '*The diversity of adaptation contexts implies there is no single approach for assessing, planning and implementing adaptation measures.*'

Effective adaptation also depends on donor agencies improving their own practices. Research has highlighted that GEF-financed projects can be overambitious relative to local implementation capacity (Mee et al. 2008), while the World Bank has faced criticism for insufficient responsiveness to local contexts (Morduch 2008). In Kiribati, these challenges are particularly relevant given the country's limited institutional capacity and reliance on external technical expertise to deliver adaptation programmes. Improvements in donor practices – including greater use of budgetary

support, participatory planning and locally-led implementation – are therefore essential to the long-term success of programmes such as the KAP.

Monitoring and evaluation

Preston et al. (2011) identify three reasons why evaluation is crucial: first, to minimise vulnerability of both social and ecological systems; second, to facilitate learning and adaptive management; and third, increasing accountability in policy-making, which relies heavily on evidence (ibid.).

Adaptation processes should focus on producing efficient adaptation (Mendelsohn 2000; Tompkins et al. 2010). However, since most evaluation mechanisms focus on either the costs of autonomous adaptation relative to projected impacts or on the feasibility of planned adaptation strategies (Smit et al. 1999), we have yet to gain a good understanding of what effective adaptation actually entails. Most approaches would suggest evaluative criteria such as those cited by Smit et al. (1999, 204): '*...costs, benefits, equity, efficiency, urgency and implementability*'.

Lessons Learned and Exemplars of Good Practice

Kiribati's experience with adaptation to sea level rise offers several lessons of broader relevance for small island developing states and low-lying atoll nations. The country's early engagement with formal adaptation planning – commencing in 1995 with ratification of the UNFCCC – and its pioneering role in framing adaptation as a development concern rather than a purely environmental issue, positioned Kiribati as a leader among Pacific SIDS. It is within this context that the following lessons and exemplars of good practice are identified.

First, it is important to address the unsustainable concentration of population on South Tarawa to reduce the number of people exposed to coastal hazards. Options include establishing alternative growth centres on outer islands such as Kiritimati, investing in basic infrastructure and services on outer islands to reduce the pull factor of Tarawa, supporting sustainable livelihoods on outer islands to slow rural-to-urban migration, and ensuring that housing and settlement patterns on South Tarawa incorporate climate risk considerations. The government's efforts to bolster infrastructural development on selected outer islands represent a positive step in this direction.

Continued investment in coastal protection infrastructure, including both hard and soft defences, is also essential. The KAP demonstrated that effective coastal management requires a shift from reactive to preventative approaches. It is important that all future coastal protection designs integrate site-specific assessments of wave energy, sediment dynamics and projected sea level rise, combining seawalls on high-energy ocean-facing shores with ecosystem-based solutions on lagoon-facing coasts. The phased approach of the KAP – progressing from consultation and mainstreaming (KAP I), through pilot implementation (KAP II) to scaled-up investment (KAP III) – provides a replicable model for adaptation programming in resource-constrained settings.

Third, it is critical to protect and restore mangrove ecosystems and coral reefs, both as natural coastal defences and for the preservation of ecosystem services. Community-based mangrove planting

under KAP II and III, led by the Environment and Conservation Division on islands including Marakei, Abaiang, Abemama, Nonouti and South Tarawa, exemplifies good practice in ecosystem-based adaptation. The programme demonstrated that mangrove afforestation is most effective on outer atolls and lagoon-facing shores, providing multiple co-benefits including shoreline stabilisation, nursery habitat for fisheries and carbon sequestration. The functional linkages between coral reefs, seagrass beds and mangroves underscore the need for integrated coastal ecosystem management.

Another lesson is that strategies to improve access to climate finance and strengthen financial resilience should be pursued. Kiribati's launch of its National Climate Financing Strategy in 2024, in partnership with the Global Green Growth Institute and the Pacific Community (Global Green Growth Institute 2024), represents a positive step toward building institutional capacity to access global funds. The persistent gap between approved and disbursed climate finance for Pacific island countries underscores the need for continued investment in fiduciary and project management systems. The Revenue Equalisation Reserve Fund and fishing licence revenues provide important fiscal buffers, but sustained international support remains essential for large-scale adaptation.

Fifth, research, data collection and monitoring should be strengthened. Quantitative information on the frequency and impacts of coastal flooding is essential when formulating long-term adaptation plans. The relatively short Betio tide gauge record (since 1993) limits confidence in long-term trend estimates, and investment in sustained sea level monitoring, hydrographic surveys and shoreline change mapping is a priority. Collaboration between national agencies and international partners such as the Australian Bureau of Meteorology and NASA's Sea Level Change Team should be maintained and expanded.

Donor co-ordination mechanisms should also be strengthened to reduce the administrative burden on government. The experience of Kiribati underscores the challenges that multiple

concurrent donor programmes can impose on small governments with limited institutional capacity. The consolidation of climate adaptation and disaster risk management under the Joint Implementation Plan (2019–2028) represents a positive step toward reducing fragmentation. Government ownership and high-level political commitment – demonstrated through the mainstreaming of adaptation into the National Development Strategy and subsequent policy frameworks – have been essential to sustaining adaptation momentum across political cycles.

Freshwater security and sanitation in low-lying atoll environments require sustained attention. The vulnerability of freshwater lenses to saltwater intrusion, combined with the projected increase in high-tide flooding frequency, makes water resource management a critical adaptation priority. KAP II and III investments in roof catchment systems, sanitation improvements and water policy development on outer islands represent another good practice that should be continued and scaled.

Finally, managed migration pathways should be maintained as a complementary adaptation strategy alongside in-situ measures. The New Zealand Pacific Access Category visa programme and regional arrangements with Fiji provide important safety valves. However, for most I-Kiribati, adaptation rather than relocation is preferable to maintain cultural rights, basic dignity and traditional ways of life. Strengthening local disaster response capacity, building community awareness of climate risks and integrating traditional knowledge with scientific data are all priorities for sustaining resilient communities across the archipelago.

Recommendations

Based on the findings of this case study, the following recommendations are offered to strengthen adaptation to sea level rise in Kiribati and inform similar efforts in other small island developing states.

- First, sustained investment in locally led institutional capacity development should be prioritised over continued reliance on international technical assistance, as the KAP experience demonstrated persistent challenges in knowledge transfer to local counterparts. Future programmes should embed long-term capacity building at the national and island council levels, ensuring I-Kiribati professionals lead programme design, implementation and evaluation.
- Second, donor co-ordination mechanisms should be strengthened to reduce fragmentation and administrative burden on the Government of Kiribati. The transition from the KAP to the Joint Implementation Plan (2019–2028) offers an opportunity to consolidate adaptation funding under a single co-ordinated framework, reducing duplication and ensuring that limited government resources are not consumed by the process of managing multiple donor relationships.
- Third, adaptation planning must integrate ecosystem-based approaches with hard infrastructure interventions. Evidence from KAP II and KAP III shows that mangrove planting and ecosystem restoration provide cost-effective coastal protection on lagoon-facing shores, while hard infrastructure remains necessary for ocean-facing coastlines. Future programmes should adopt integrated coastal-zone management, combining both approaches.
- Fourth, the persistent inequalities between South Tarawa and outer island communities in terms of access to basic infrastructure must be addressed as an integral component of the adaptation strategy. Establishing alternative growth centres on outer islands, as the government has begun doing with Kiritimati, can help reduce the unsustainable concentration of population on South Tarawa while building resilience across the archipelago.
- Fifth, monitoring and evaluation frameworks for adaptation effectiveness should be strengthened. Kiribati should develop context-specific indicators capturing physical outcomes and social dimensions, including community participation, equity and integration of traditional knowledge with scientific data.
- Finally, managed migration pathways should be maintained and expanded as a complementary adaptation strategy, while ensuring that in-situ adaptation remains the primary focus. The New Zealand Pacific Access Category visa and other regional arrangements provide important safety valves, but the I-Kiribati preference for remaining on their islands and maintaining cultural identity must be respected and supported through robust on-island adaptation investments.

Conclusions

Kiribati's experience with sea level rise adaptation offers important insights for small island developing states confronting similar challenges. As a nation of 32 low-lying atolls with a total land area of only 811 km² scattered across 3.5 million km² of ocean, Kiribati is among the most physically vulnerable countries on earth to the impacts of climate change and sea level rise. The findings presented in this case study lead to several key conclusions.

First, Kiribati's early engagement with adaptation planning – commencing in 1995 with its ratification of the UNFCCC and early membership of AOSIS – positioned the country as a pioneer among SIDS in addressing climate risks. The adoption of the Kiribati Adaptation Programme (KAP) in 2002, framed as a development concern rather than a purely environmental issue, represented a forward-thinking approach that enabled adaptation to be mainstreamed into national economic planning. The three-phase structure of the KAP (preparation, pilot implementation and expansion) provided a logical progression from consultation and planning through to scaled-up investment across all major islands and vulnerable sectors.

Second, the effectiveness of adaptation in Kiribati has been fundamentally shaped by the broader institutional and aid delivery context. The country's MIRAB economy, its heavy reliance on international aid, and limited institutional and technical capacity have all constrained the delivery of adaptation programmes. The evidence highlights that government ownership, participation by affected communities, strong administrative capacity, sound public sector management, close donor co-ordination and improvements in donor agency practices are all essential preconditions for effective adaptation. Where these conditions have been absent – particularly in relation to donor co-ordination and knowledge transfer to local counterparts – the effectiveness of adaptation investments has been diminished.

Third, Kiribati's vulnerability to sea level rise is compounded by significant socio-economic pressures that exist independently of climate change. Urban overcrowding on South Tarawa, with Betio alone housing more than 17,000 of the estimated 70,000 South Tarawa residents

in conditions characterised by poor waste management, resource depletion and social dysfunction, illustrates how demographic pressures and internal migration amplify climate vulnerability. The persistent inequalities between outer island and Tarawa residents in terms of access to basic infrastructure – including piped water, sanitation, health facilities and electricity – further underscore that adaptation cannot be separated from broader development objectives.

Fourth, while the KAP addressed multiple sectors, including water resources, coastal management and community-level capacity building, measuring the effectiveness of these interventions remains inherently challenging. As the literature reviewed in this study makes clear, there is no single approach for assessing the effectiveness of adaptation, and evaluative criteria encompassing costs, benefits, equity, efficiency, urgency and implementability must all be considered. The diversity of adaptation contexts in Kiribati – from urban South Tarawa to the remote outer islands – demands flexible and context-specific assessment approaches.

Fifth, the question of relocation versus in-situ adaptation remains a defining tension for Kiribati's future. While arrangements for migration pathways – including New Zealand's Pacific Access Category visa providing residency to 150 I-Kiribati annually – offer an important safety valve, the evidence suggests that for most Pacific islanders, adaptation rather than relocation is preferable in order to maintain cultural rights, basic dignity and traditional ways of life.

Finally, the World Bank's 2000 projection that Kiribati could face economic damage of US\$8–16 million per year by 2050, equivalent to 17–34 per cent of its 1998 GDP, underscores the urgency of sustained and scaled-up adaptation action. The transition from the KAP to the Joint Implementation Plan for Climate Change and Disaster Risk Management (2019–2028) signals continued government commitment. However, the long-term success of adaptation in Kiribati will depend on overcoming the persistent challenges of limited institutional capacity, donor fragmentation, and the need to ensure that adaptation programmes are locally owned and driven rather than externally imposed.

References

- Borovnik, M (2006), 'Working overseas: Seafarers' remittances and their distribution in Kiribati', *Asia Pacific Viewpoint*, Vol. 47 No. 1, 151–161.
- Brainard, L., Graham, C.L., Purvis, N., Radelet, S. and Smith, G.E. (2003), *The Other War: Global Poverty and the Millennium Challenge Account*, Brookings Institution Press and Center for Global Development, Washington, DC
- Cannon, SE, E Aram, T Beiateuea, A Kiareti, M Peter and SD Donner (2021), 'Coral reefs in the Gilbert Islands of Kiribati: Resistance, resilience, and recovery after more than a decade of multiple stressors', *PLOS ONE*, Vol. 16 No. 8, e0255304.
- Chissano, J.A. (2007), 'Why We Should "Rethink" Aid', statement at the New Directions in Development Assistance conference, Rhodes House, University of Oxford, 10–12 June 2007.
- Cling, J.-P., Razafindrakoto, M. and Roubaud, F. (2003), 'Poverty Reduction Strategy Papers: Old Wine in New Bottles?', in J.-P. Cling, M. Razafindrakoto and F. Roubaud (eds.), *New International Poverty Reduction Strategies*, Routledge Studies in Development Economics, 35, London and New York: Routledge, pp. 180–202.
- Duvat, V, A Magnan and F Pouget (2013), 'Exposure of atoll population to coastal erosion and flooding: A South Tarawa assessment, Kiribati', *Sustainability Science*, Vol. 8 No. 3, 423–440.
- Füssel, HM (2007), 'Adaptation planning for climate change: Concepts, assessment approaches, and key lessons', *Sustainability Science*, Vol. 2 No. 2, 265–275.
- Global Green Growth Institute (2024), 'Kiribati launches ambitious climate finance strategy', GGGI. Tarawa, Kiribati, 20 October. Kiribati Launches Ambitious Climate Finance Strategy to Enhance Access to Global Funds — Global Green Growth Institute
- Heltberg, R, P Siegel and S Jorgensen (2009), 'Addressing human vulnerability to climate change: Toward a "no-regrets" approach', *Global Environmental Change*, Vol. 19 No. 1, 89–99.
- Hughes, H. (2004), 'From Riches to Rags: What Are Nauru's Options and How Can Australia Help?', Issue Analysis, No. 50, Centre for Independent Studies, Sydney, Australia From Riches to Rags What Are Nauru's Options and How Can Australia Help? - The Centre for Independent Studies
- Intergovernmental Panel on Climate Change (IPCC) (2021), 'Climate change 2021: The physical science basis', Contribution of Working Group I to the *Sixth Assessment Report of the IPCC*, Cambridge University Press.
- Keohane, R (1996), 'Analyzing the effectiveness of international environmental institutions', in R.O. Keohane and M.A. Levy (eds.), *Institutions for Environmental Aid: Pitfalls and Promise*, MIT Press, Cambridge, MA, pp. 3–28
- Lawrence, R (1992), 'Kiribati: Change and context in an atoll world', in AB Robillard (Ed.), *Social change in the Pacific Islands*, Kegan Paul International, 264–299.
- McKee, D.L. and Tisdell, C.A. (1990), *Development Issues in Small Island Economies*, Praeger, New York.
- Mee, LD, H Dublin and AA Eberhard (2008), 'Evaluating the global environment facility: A goodwill gesture or a serious attempt to deliver global benefits?' *Global Environmental Change*, Vol. 18 No. 4, 800–810.
- Mendelsohn, R (2000), 'Efficient adaptation to climate change', *Climatic Change*, Vol. 45 No. 3–4, 583–600.
- Morduch, J (2008), 'The knowledge bank', in W Easterly (Ed.), *Reinventing foreign aid*, MIT Press, Cambridge, MA, pp. 377–397.
- Mortreux, C and J Barnett (2009), 'Climate change, migration and adaptation in Funafuti, Tuvalu', *Global Environmental Change*, Vol. 19 No. 1, 105–112.
- NASA Sea Level Change Team (2024), *Assessment of timelines for future sea level rise and associated impacts for Kiribati*, N-SLCT-2024-02 Technical Report, National Aeronautics and Space Administration (NASA).

Preston, BL, RM Westaway and EJ Yuen (2011), 'Climate adaptation planning in practice: An evaluation of adaptation plans from three developed nations', *Mitigation and Adaptation Strategies for Global Change*, Vol. 16 No. 4, 407–438.

Secretariat of the Pacific Regional Environment Programme (SPREP) (2025). Coastal Nature-based solutions in Kiribati draws on lessons from the past. 20 May 2025. SPREP.

Smit, B, I Burton, RJT Klein and R Street (1999), 'The science of adaptation: A framework for assessment', *Mitigation and Adaptation Strategies for Global Change*, Vol. 4 No. 3–4, 199–213.

Sofield, T (2002), 'Outside the net: Kiribati and the knowledge economy', *Journal of Computer-Mediated Communication*, Vol. 7 No. 2.

Tompkins, EL, WN Adger, E Boyd, S Nicholson-Cole, K Weatherhead and N Arnell (2010), 'Observed adaptation to climate change', *Global Environmental Change*, Vol. 20 No. 4, 627–635.

United Nations, Department of Economic and Social Affairs, Population Division (2024), *World Population Prospects 2024: Online Edition*, United Nations, New York.

White, I., Falkland, T., Metutera, T., Katatia, M., Abete-Reema, T., Overmars, M., Perez, P. and Dray, A. (2008). 'Safe water for people in low, small island Pacific nations: The rural–urban dilemma'. *Development*, 51(2), 282–287. <https://doi.org/10.1057/dev.2008.18>

World Bank (1995), *Strengthening the effectiveness of aid: Lessons for donors*, World Bank, Washington, DC.

World Bank (2000), *Cities, seas, and storms: Managing change in Pacific Island economies*, Vol. IV: Adapting to climate change, World Bank, Washington, DC.

World Bank, (2022), 'Kiribati Outer Islands Resilience and Adaptation Project', World Bank, Washington, DC.

Annexes

Annex A. Country dashboard

COMMONWEALTH SEA LEVEL RISE CASE STUDY	MODEL
KIRIBATI	DASHBOARD

Country snapshot

Land area 811km²	Coastal population ~100% (all atoll-based)	Coastal elevation ~2–3 m above mean sea level (MSL) (low-lying atolls)
GDP from coastal sectors >50%	Coastal zone (% land) ~100% (all land is coastal)	Urban overcrowding (Tarawa) >70,000 households

Sea level rise indicators

Observed local SLR ~3.9mm/yr (Betio, 1992–2008) vs. global ~3.5mm/yr	Projected rise by 2100 0.5–1.0 m (SSP2-4.5 to SSP5-8.5) above 2000 levels	Land subsidence Localised (not precisely quantified) data required
Asset exposure US\$8–16M/yr by 2050 US\$8–16 million/yr damage by 2050	Adaptation cost needed >US\$1 billion 17–34% of 1998 GDP at risk	Tide gauge record Betio (1993–present) data required

Adaptation at a glance

Type	Key measures	Status
Coastal protection	KAP II Component 2: Coastal management, risk mitigation	Operational (2006–2016)
Ecosystem based	Mangrove planting (37,000+ seedlings under KAP II/III); coral reef conservation	Active (KAP II–III)
Accommodation	Water policy, roof catchment, sanitation (KAP II/III)	Scaled up under KAP III
Planned retreat	New Zealand Pacific Access Category (PAC) visa (150/yr); arrangements with Fiji	Active migration pathway
Climate finance	GEF, Least Developed Countries Fund, Japan, Australia, Global Facility for Disaster Reduction and Recovery	Multi-donor funded

Key milestones

1989	1995	2003	2006	2012	2019	2021
Holdgate Report	UNFCCC ratified	KAP I (2003–2005)	KAP II (2006–2008)	KAP III (2009–2016)	JIP Climate (2019–2028)	Paris NDCs

Commonwealth Apia Ocean Declaration relevance

How does sea level rise in this country intersect with the **priorities set out in the Commonwealth Apia Ocean Declaration?**

	Ocean–Climate Nexus Primary Action Group for this series. Low-lying atolls highly vulnerable to SLR. Climate change threatens freshwater, fisheries and infrastructure. KAP programme operational since 2002. Adaptation since 1995; KAP I–III (2003–2016)		Marine Pollution Urban overcrowding on South Tarawa leads to unmanaged waste disposal and depletion of marine resources, particularly in Betio settlement. Betio: 17,000+ residents, waste challenges
	Sustainable Fisheries Fishing licences for 3.5 million km² exclusive zone are a major revenue source. Coral reef bleaching threatens spawning grounds. Tuna stocks of global significance. Fishing licences: 29.4 million Australian dollars (A\$) (1999)		Blue Economy MIRAB economy dependent on migration, remittances, aid. Fishing licences and remittances from seafarers are key revenue sources. Remittances: A\$10 million Licences: A\$29.4 million (1999)
	Marine Protection and Restoration Kiribati's coral reef ecosystems provide essential coastal protection and fisheries habitat but face cumulative stress from bleaching, crown-of-thorns outbreaks and pollution. KAP II/III supported mangrove planting on multiple islands. A 2024 SPREP pre-feasibility study assessed priority areas for nature-based coastal solutions. The Phoenix Islands Protected Area demonstrates Kiribati's commitment to marine conservation.		

Annex B. Legislative and policy framework summary

Category	Instrument / framework	Year	Description	Relevance to SLR
International agreements	UNFCCC	1995	Ratified; early AOSIS member.	Foundation for national adaptation obligations.
International agreements	Paris Agreement	Ratified	Basis for NDC commitments.	Commits Kiribati to adaptation planning under NDC framework.
National strategy	National Development Strategy	2004–2007	Mainstreamed adaptation recognising climate risks to development pathways.	Integrated SLR adaptation into national development planning.
National strategy	Climate Change Adaptation Policy Statement and Strategy	2005	Gave direction to national adaptation process.	Required vulnerable sectors to screen regulatory frameworks for climate risks.
National strategy	Kiribati Climate Change Policy	2018	Overarching strategic framework; vision of resilient Kiribati; ten sector priorities.	Mainstreams climate change into development planning, policies and budgeting.
National strategy	National Climate Financing Strategy	2024	Launched in partnership with Global Green Growth Institute and Pacific Community.	Builds institutional capacity to access global climate finance for adaptation.
National policy	Kiribati Adaptation Programme (KAP)	2000–2016	Three-phase programme (KAP I, II, III); mainstreamed adaptation across sectors.	Major programme addressing coastal protection, water resources and community resilience.
National policy	National Adaptation Programme of Action (NAPA)	2007	Identified short-term adaptation needs.	Superseded by Joint Implementation Plan.
National policy	Joint Implementation Plan for CC and DRM	2019–2028	Supersedes NAPA; integrates climate change adaptation (CCA) and disaster risk reduction under single co-ordinated plan.	Primary operational framework for SLR adaptation and disaster risk management.
National policy	Nationally Determined Contributions (NDCs)	Submitted	Commitments under Paris Agreement.	Frames adaptation priorities, including coastal resilience.
Legislation	Environment Act	1999; replaced 2021	Primary environmental legislation; establishes Dept of Environment roles; requires Environmental Impact Assessments; designates protected areas.	Governs environmental management relevant to coastal adaptation.
Legislation	Disaster Risk Management and Climate Change Act	2019	National framework for disaster preparedness, CCA and risk reduction; mandates all agencies integrate Disaster Risk Management and climate change.	First in Pacific to explicitly link CC and DRM with gender equality.
Institutional	Ministry of Environment, Lands and Agricultural Development (MELAD)	–	Central role through Environment and Conservation Division.	Leads climate adaptation co-ordination and ecosystem management.
Institutional	Environment and Conservation Division	–	Leads community-based mangrove planting and marine conservation programmes.	Implements ecosystem-based adaptation measures.
Regional framework	Framework for Resilient Development in the Pacific (FRDP)	2017–2030	Regional guidelines for Pacific island resilience.	Informs national adaptation approaches and SLR projections.
Financial	Revenue Equalisation Reserve Fund	–	Sovereign wealth fund providing fiscal buffer.	Important fiscal resilience mechanism alongside adaptation spending.
Financial	Fishing licence revenues	Ongoing	Major revenue source from 3.5 million km ² exclusive economic zone (EEZ).	Provides fiscal resources; fisheries sector threatened by SLR and warming.

Commonwealth Secretariat

Marlborough House, Pall Mall
London SW1Y 5HX
United Kingdom

thecommonwealth.org