

Chapter 2

The Political Economy of Transitioning to a Green Economy in Botswana

Centre for Applied Research

2.1 Introduction

Botswana, a land-locked country in the centre of southern Africa, is one of the 31 small states of the Commonwealth. It is a small country by population and economy standards; however, it is large in geographic size with a land mass of 582,000 km². There are three types of land tenure:

- tribal land (communal agricultural land and leasehold ranches);
- state land (mostly cities and protected areas); and
- freehold land (farms).

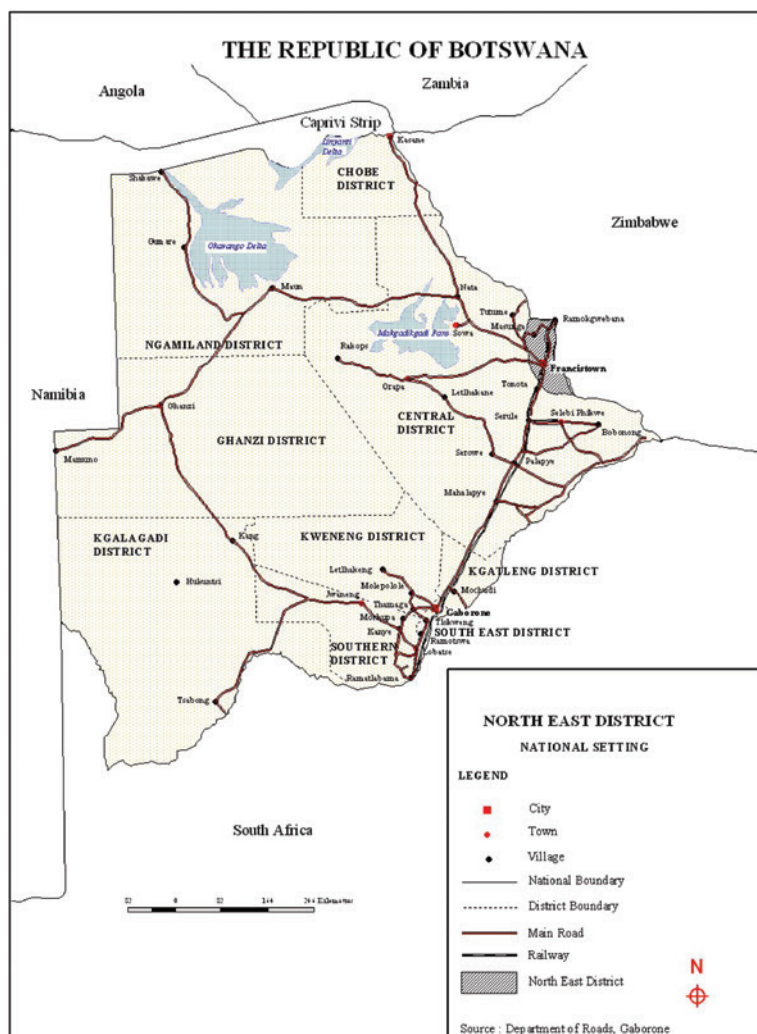
Tribal land accounts for 72 per cent of the country, state land for 25 per cent and freehold land for 3 per cent. The land use is shown in Figure 2.1. Three-quarters of the country is Kalahari sandveld, while most people live in the eastern hardveld. Most of the protected areas (PAs) are located in northern and western Botswana.

2.1.1 Botswana's human population and development

Botswana has a small population of just over 2 million people (2011; Statistics Botswana [SB] 2012). As a result, the country's population density is only 3.5 persons per km². The annual population growth has slowed down rapidly over the last few decades, because of declining fertility and the impact of HIV/AIDS. Annual population growth is currently estimated at 1.9 per cent compared with 2.4 per cent in 2001 and 3.5 per cent in 1991 (SB 2011a, b; 2012). The fertility rate (defined as births per woman) declined from four to three births per woman during the period from 1991 to 2001.

Other demographic characteristics include:

- Rapid urbanisation around the country's capital Gaborone, Francistown and in most district capitals. In 2001, 54.1 per cent of the population lived in urban areas and the population in and around Gaborone grew by 5.2 per cent per annum (SB 2011c).
- A very young population with a rapidly increasing labour force (around 710,000 in 2010), only part of which is absorbed in formal employment. However, as a result of the current demographic transition, the percentage of children and young people will decrease in future.
- Women are in the majority, constituting 51.6 per cent of the total population as of 2001.

Figure 2.1 Map of Botswana

Source: Centre for Applied Research (CAR) 2011.

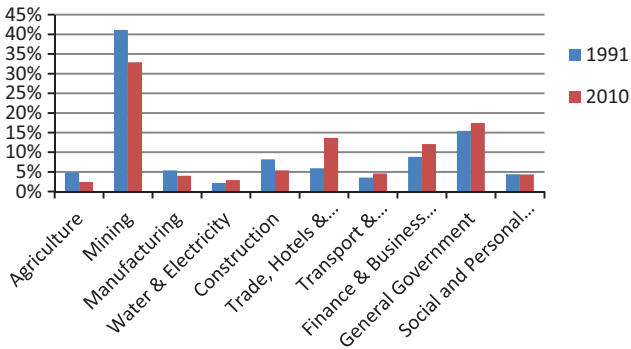
Human resources are essential for economic development and the transformation towards a green economy, as they assist the productive use of physical and natural capital (World Bank 2011a).

Botswana has an extremely open (high imports and export levels) economy dominated by the mining and public sectors. The economy is fragile, as it largely depends on diamond exploitation and revenues. Despite gloomy economic expectations at independence, the country has experienced a long period of economic growth, initially at fast rates but slowing down during the last decade (2.7 per cent per annum during 2009–2011). As a result, it has become a middle-income country (MIC) with a per capita income of 55,317 Botswana pula (BWP) in 2010 (or around US\$7,400).

Economic growth has been mostly driven by the mining sector, but since the 1990s the tourism sector has increasingly contributed to economic growth: 4.3 per cent of GDP and 4.2 per cent of formal employment (World Travel and Tourism Council [WTTC] 2007). By contrast crop and livestock production have hardly grown, despite government assistance and premium export opportunities to the European Union (EU) for its beef. Nonetheless, agriculture remains the foundation of the rural economy, and the sector's poor performance has perpetuated rural poverty. The change in economic structure between 1991 and 2010 is shown in Figure 2.2.

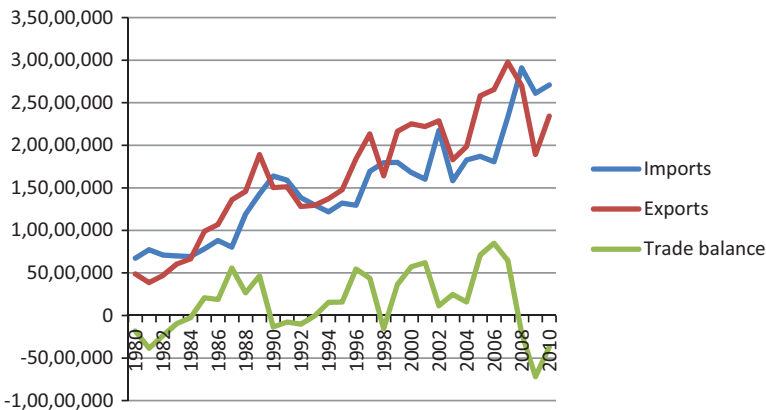
Botswana's economy shrunk during the global economic recession in 2008–2010, because of a depressed diamond market (a severe dip in diamond exports since 2008; Figure 2.3). The government managed the difficult situation by drawing upon its foreign reserves and postponing development projects. Imports had overtaken exports by 2008, leading to a significant balance of payment deficit since 2008.

Figure 2.2 Sectoral contributions to GDP, 1991 and 2010 (%)



Source: Adapted from SB data.

Figure 2.3 Trends in imports and exports (constant 93/94 BWP)

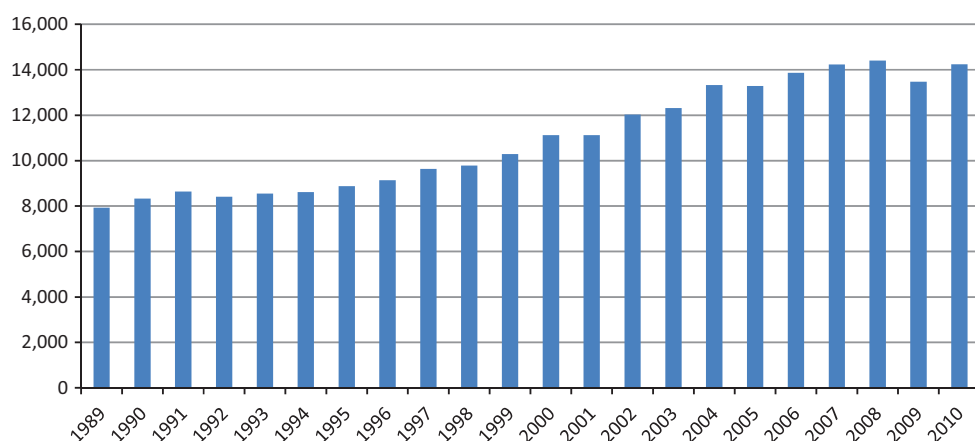


Source: Adapted from SB data.

According to the traditional development yardstick of per capita income, Botswana has developed rapidly and has reached MIC status (Figure 2.4). Per capita income (in real terms) has remained stable since 2008. The shortcomings of the per capita income indicator are well known. Other indicators provide better insights into human and sustainable development achievements. The country's scores on most other indicators are positive, showing that Botswana is in a relatively good position to green its economy:

- The **Human Development Index (HDI)** is a broader measure of development than per capita income, as it includes health and educational aspects and also incorporates gender and inequality. Botswana's HDI was 0.633 in 2011 (ranked 118 in the world; medium human development). Botswana's HDI has improved over time (e.g. 0.518 in 1985), but the index temporarily dipped between 1995 (0.601) and 2005 (0.601), when the health impacts of the HIV/AIDS pandemic were felt and before the impacts of anti-retroviral (ARV) and other control measures became visible.
- The **Adjusted Net Savings Index (ANSI)** gives an indication of the sustainability of economic growth (World Bank 2011a, b), adjusting the traditional economic measure of net savings for changes in human capital (measured by educational expenditures as an addition to the NSI) and natural capital (resource depletion and pollution damage as deduction from the NSI). The World Bank (2011a, 187) estimates that Botswana has an ANSI of 37.2 (2008), compared with a NSI of 34.8 per cent.
- The **Ibrahim Index for Africa** scores countries on four aspects of good governance (safety and rule of law, participation and human rights, sustainable economic opportunities, and human development). In 2013 Botswana ranked second with a score of 77.6 (out of 100; see: www.moibrahimfoundation.org (accessed 18 February 2014)). The country performs best in the area of 'safety

Figure 2.4 Trend in per capita income (constant 93/94 BWP prices)



Source: Based on SB data.

and rule of law' followed by 'participation and human rights'. The rural sector scores lowest (rank 17).

- A concern is the decline in ranking on the **Global Competitiveness Index** (from rank 76 to 80 in 2011–2012; source: World Economic Forum), indicating that the country has become less attractive for foreign direct investment.
- The *ecological footprint* is an indicator of environmental sustainability of country's development (see: www.footprintnetwork.org/en/index.php/GFN/page/footprint_basics_overview/) (accessed 18 February 2014). Botswana's footprint (2.84 global hectares or gha/person in the year 2008¹) is well below the ecological capacity (3.76 gha/person; see also World Wildlife Fund [WWF] 2012).

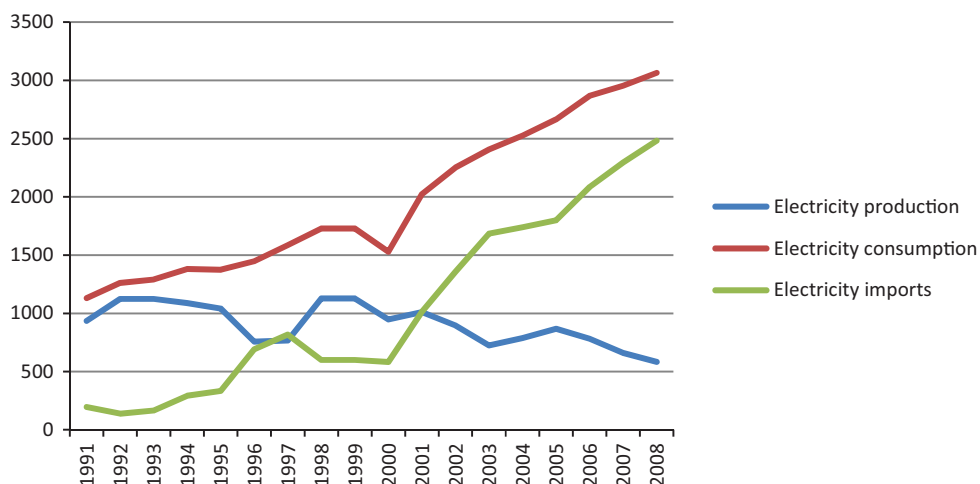
2.1.2 Development and environment challenges

The main challenges for the economy are rapid economic diversification, the transition towards the post-diamond era, job creation, poverty reduction, agricultural revival and food security. In addition, the government's budget deficit needs to be reduced.

Development success has also raised broader development challenges. Dependency on government has grown significantly in time, reducing the development initiative and drive of the population. An additional challenge is the social adaptation to the rapid economic development that has occurred. Rapid urbanisation and growth have affected sociocultural fabrics of society and have caused adaptation problems for young and old. Consumerism and borrowing is extensive, extended family systems are eroding and traditional poverty alleviation practices are disappearing. Another challenge is posed by the fact that despite the increase in the country's wealth/capital base, productivity is not increasing. There seems to be a failure to use growing capital resources more efficiently. Finally, Botswana has a small and relatively weak civil society.

In terms of natural resources, pressure on water resources is evident. Current sustainable yield of water infrastructure is 163.6 Mm³ (well fields 96 Mm³/annum; dams 73.2 Mm³/annum) and dams are under construction with a sustainable yield of 72.7 Mm³, making a total sustainable yield of 251.3 Mm³.

Botswana further faces a challenge of productive land use (both commercial and communal). The challenge for a green economy is to encourage investment and productive use of land resources, while retaining their social security role and their natural potential carrying capacity. Energy consumption has risen rapidly. Electricity imports grew from 17 per cent of consumption in 1991 to 81 per cent in 2008. This strategy led to energy insecurity in recent years, when South Africa cut exports to Botswana² (Figure 2.5) due to power shortages in South Africa; solar power is under-utilised. Botswana's per capita CO₂ emissions increased to 2.5 tonnes per capita in 2008. Botswana has rich wildlife resources and capital that support the tourism sector, high levels of biodiversity and unique and diverse ecosystems such as the Okavango Delta and the Kalahari Desert. Four large animal species have increased in number since the early 1990s: elephant, buffalo, crocodile and hippo. Most other

Figure 2.5 Electricity production, imports and consumption (in MKwH)

Source: World Bank World Development and Public Finance Indicators.

species have decreased or have remained stable (Central Statistics Office [CSO] 2000, 2006, 2009).³ Wildlife densities are highest in national parks and game reserves, but significant numbers are also found outside protected areas (PAs), especially of roan (63.3 per cent are found outside parks), tsessebe and wildebeest (CSO 2009). Wildlife resources are an essential component of Botswana's natural (renewable) capital and their conservation and use are important to grow a green economy. Botswana's semi-arid conditions are associated with high summer temperatures, evaporation and high rainfall variability, especially in the lower rainfall areas. Rainfall is highly variable spatially, seasonally and annually, making the conditions difficult for rain-fed crop production. Droughts are endemic and common and occasionally floods occur. Climate change is expected to further increase variability, temperatures and the frequency of extreme events (World Bank 2010a, b). Comparative advantages of economic sectors are expected to change in (parts of) the country. Climate adaptation and mitigation are therefore critical components of a green economy.

Rangeland degradation has been a long-standing environmental concern, especially around villages and waterpoints. Bush encroachment is a process where the woody biomass increases at the expense of (perennial) grasses and the biomass is dominated by a few invading species, leading to a loss of biodiversity and natural beauty. The long-term environmental assessment of the viability of the livestock sector (CAR 2006) found that rangeland degradation affected 9.8 per cent of the country, and that degradation extends and contracts with rainfall fluctuations. The 10 per cent degraded area could be the 'hard-core' degraded area of otherwise resilient rangelands. Degradation is most common in communal areas and lowest in wildlife areas. Bush encroachment reduces livestock productivity and therefore control of bush encroachment is important for the revival of the agricultural sector and the pursuit of a green economy. Botswana could follow the example of Namibia, which has developed a charcoal industry and generates power from de-bushed rangelands (World Bank 2011b).

This section shows that Botswana has a wealth of diverse natural capital and assets, which are critical to key economic sectors such as agriculture, mining and tourism. Sustainable use and management of these resources is a vital part of the transformation to a green economy.

2.1.3 National development planning

The government has established a tradition of five-year National Development Plans (1–10) (NDPs) and associated District/Urban Development Plans (DDPs). The plans are developed in consultation with the private sector, communities and civil society, and they are ultimately approved by parliament. NDPs guide the annual government budget. NDPs and DDPs are half-way reviewed, and where necessary adjusted in consultation with the local population and society. Other consultative fora include the local village *kgotlas*, sectoral *pitsos* (e.g. tourism, education and water) and biannual high-level consultative meetings between government, the private sector and civil society. The overall development planning objectives have largely remained the same:

- rapid economic growth;
- social justice;
- sustained development; and
- economic independence.

The country's Long-term Vision 2016 has provided overall direction to the NDPs 8, 9 and 10. The vision has set ambitious development goals for 2016, largely overlapping with the Millennium Development Goals (MDGs). The second Botswana MDG status report (Government of Botswana [GoB] and UNDP 2010) points at successes in poverty reduction, the nutritional status of children, almost universal primary education, gender parity in primary and secondary schools, increased gender parity in senior management in the public and private sectors, various health improvements, and improved communication (especially mobile phones) and internet/computer use. However, poverty eradication, full employment and the intended increase in per capita income will be difficult to achieve.

While the planning system has facilitated orderly development planning, good governance and budgetary discipline, it has also entrenched government domination in development planning. A major positive change occurred with the introduction of thematic areas in the current NDP10. This was aimed at improved integration of government activities across line ministries. This process has been furthered by the establishment of four thematic groups that lead the mid-term review of NDP10: 'economic growth and employment', 'governance, safety and security', 'social upliftment' and 'sustainable environment'. The last thematic group has identified three national priorities:

- sustainable management and use of natural resources;
- managing the impacts of global warming and climate change; and
- pollution prevention and control.

2.2 Conceptualisation of the green economy concept in Botswana

In the run-up towards United Nations Conference on Sustainable Development (Rio+20), the international arena focused on the economic aspects of sustainable development, captured in 'green economies'. This is a response to the dominant economic paradigm of economic growth, which fails to address irreversible social and environmental externalities of these economic activities. Poverty is still prevalent among more than 2.5 billion people in the world, while the natural wealth of the planet is being radically drawn down (UNEP 2011). This case study briefly introduces the concept of a green economy, discussing how Botswana has conceptualised this in practice and which challenges the country faces in transitioning.

2.2.1 The concept of a green economy

The concept of a green economy is driven by the need to change behaviour towards the environment and develop policies that are green, and being innovative in the development of technologies that are environmentally sustainable. A range of definitions has emerged, but all have common ground in emphasising poverty eradication and seeing a green economy as a means for sustainable development. According to UNEP (2010, 5), a green economy is 'an economy that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities'. This is an economy that has low carbon emissions, maintains its natural capital, is climate resilient and takes advantage of growth and job opportunities created by such characteristics (Commonwealth Secretariat 2012). The overarching goal of green growth is to establish incentives or institutions that increase well-being by (World Bank 2012):

- improving resource management so as to boost productivity;
- encouraging economic activity to take place where it is of best advantage to society;
- encouraging investments in renewable resources and associated economic sectors;
- use of technology and innovation to meet the above objectives; and
- recognising the full value of natural capital as a factor of production along with other goods and services.

Green growth is essentially driven by increased investments in sectors that enhance natural capital and reduce ecological scarcities and environmental risks. In addition to these investments, economic growth indicators, such as GDP, need to be complemented by natural resources accounting and valuation of ecological services. Green economy and poverty eradication formed part of the two specific themes of the Rio+20 Summit. The green economy is considered as an economy that values the environment and adopts sustainable pricing policies and regulatory changes so as to translate these values into market incentives. The transformation process towards

a green economy should be tailored to the national socioeconomic context and the nature of a country's natural resources capital (see previous section).

Botswana has expressed several concerns about the green economy transformation process. These include the need for financial and technical support for implementation (not a given during the current global economic challenges) and the risk of abuse of the concept to erect trade barriers. However, the World Bank (2012) concludes that worldwide the green economy is affordable and actually needs urgent implementation. While initial investments may be high, benefits will ultimately outweigh these costs. The emergence of green trade barriers by high-income countries needs to be avoided, and sufficient political commitment at the national and global levels is required to green the economy.

Moving to a green economy is challenging for small states, but it is possible with strong green policies, investments, technological innovation, enhanced participation of the private sector and commitment and support from decision-makers and politicians.

2.2.2 Botswana's steps towards a green economy

Since the 1992 UN Earth Summit in Rio, Botswana has taken several steps towards sustainable development. These include:

- NDPs and DDPs with dedicated environmental sustainability chapters;
- various natural resources management policies and legislation, including 1998's National Conservation Strategy and Action Plan; community-based natural resources management policy; the revised 2007 National Biodiversity Strategy and Action Plan; and the Environmental Impact Assessment Act of 2005 and 2012;
- establishment of the Ministry of Environment, Wildlife and Tourism (MEWT);
- ratification and implementation of multilateral and regional environmental agreements;
- a Strategy for Economic Diversification and Sustainable Growth (2008; currently being revised to encompass issues of environmental sustainability and green economy), as well as the 2010 Economic Diversification Drive (2010);
- poverty eradication strategies and policies for improved food security; and
- adoption of the 1996 Community Based Rural Development Strategy, a 2002 Revised Rural Development Policy and an integrated Local Economic Development framework.

The MEWT is preparing a Green Government Programme that specifically focuses on improving energy and other resource efficiency within government operations, and aims to develop sustainable procurement guidelines. Additionally, three priority sectors (energy, water and agriculture) for green growth were identified during the preparatory discussions for the Rio+20 Summit as focal themes for the transformation towards a green economy. The process of preparing the National

Strategy for Sustainable Development (NSSD) commenced with a comprehensive stakeholder consultation process. The purpose of the NSSD strategy is to provide the path towards a sustainable and green economy.

Botswana has also taken green economy initiatives at the international level. Botswana was one of the two African members on the Bureau of the Rio+20 Summit, which demonstrates the country's commitment to a green economy. The outcome was the Africa Rio+20 position paper, in addition to the Botswana Rio+20 position paper. In May 2012, Botswana encouraged other African countries to commit themselves to a green economy at the Africa Sustainability Summit held in Gaborone. In the resulting Gaborone Declaration, leaders from ten African countries adopted the concept of natural capital accounting and a green economy (See: www.gaboronedeclaration.com (accessed 18 February 2014)).

Although steps have been made towards sustainable development and a green economy, challenges remain, mostly associated with loss and degradation of natural capital and increased CO₂ emissions (see the introduction to this chapter). As a small state, the institutional capacity to transform to a green economy is limited and the current policy environment is fragmented. Interviews with resource persons revealed that the local understanding of a green economy is also limited and efforts are needed to improve awareness and knowledge about the green economy. Several green initiatives are discussed in greater detail in the next section.

2.3 Implementation of green economy relevant initiatives

Over time, the government has developed several practices and activities that are highly relevant for developing a green economy. The main ones are briefly reviewed below. In addition to these initiatives, Botswana is developing integrated ecosystem-specific management and development plans. Currently, plans have been developed for the Okavango Delta and the Makgadikgadi wetland. A similar plan will be developed for the Chobe area. Such integrated plans can be viewed as rural green economy initiatives for high-value ecosystems. Details of the Okavango Development and Management Plan and the Makgadikgadi Framework Management Plan can be found at: www.eis.gov.bw (accessed 18 February 2014).

2.3.1 Poverty-Environment Initiative (PEI)

Botswana is one of the ten African countries with a UN-funded Poverty-Environment Initiative (PEI) programme (2010–2015). Poverty and the environment are closely intertwined, and maintenance of the natural capital (e.g. agricultural soils and fuel wood) is essential to reduce poverty (Econsult and CAR 2008). However, rising living standards create new environmental challenges if not addressed in time (e.g. resource wastage). Another focus of the Botswana PEI programme is to mainstream environmental concerns into the development planning process. Both poverty reduction and environmental mainstreaming are important in the pursuit of a green economy.

The first phase of the PEI (2010–2012) focuses on the integration of equitable and sustainable development in national development planning, implementation and

monitoring (Leepile 2010). Phase 2 aims to consolidate the phase 1 results, mainstream poverty–environment linkages and provide measurable indicators and planning tools for sustainable development. The PEI is based in the Ministry of Finance and Development Planning (MFDP), which collaborates with other ministries, the Office of the President (OP), local authorities, civil society and the private sector.

To date, the PEI programme has identified the major environmental challenges to be addressed by PEI:

- intersectoral co-ordination to overcome the fragmented nature of policies and responsibilities;
- achieving greater participation by the private sector to overcome capacity constraints;
- provision of evidence and awareness raising about the role of the environment in delivering poverty reduction and economic growth; and
- better integration of poverty and environment issues in plans and policies.

The PEI programme has participated in capacity building towards integrating poverty and environment issues, as well as mainstreaming. A study was carried out about the contribution of sustainable natural resource management to economic growth, poverty eradication and achievement of NDP10 goals (Botswana Institute for Development and Policy Analysis [BIDPA] 2012), and currently a study is ongoing to determine the poverty and social impacts of the government's Integrated Support Programme for Arable Agricultural Development (ISPAAD).⁴ The BIDPA study reinforced the urgent need for diversification and sustainable utilisation of natural capital, as well as climate change adaptation and investments in renewable energy resources. In terms of environmental mainstreaming, the programme supports the integration of poverty–environment linkages in the ongoing mid-term review of NDP10, participates in the initial stages for the development of the NSSD and has organised a workshop⁵ on the green economy concept to sensitise stakeholders (see Botswana and green economy policy initiatives for more details). In the second phase, the programme will work with stakeholders to develop indicators for sustainable development and support the use of planning tools such as cost–benefit analysis (CBA) and multi-criteria analysis (MCA). PEI will also support further development of the natural capital accounting tool under the WAVES project.

The programme is important for greening Botswana's economy. It has adopted a participatory approach beyond government institutions. Poverty eradication and sustainable resource management are at the core of the PEI. The development of the NSSD and sustainable development indicators will be vital for a green economy. The results should become visible in the next series of NDP11 and DDP7s (2017–2022/3). Furthermore, PEI should generate empirical data and findings on the positive and negative linkages between poverty and environmental management. This would help the government to exploit win–win situations and make informed decisions about trade-offs. Neglect of environmental factors in poverty eradication policies, programmes and strategies may result in severe negative environmental effects and in policy failures.

There are two lessons to be learned from the programme to date, which may be useful to other small states. First, poverty reduction programmes in Botswana need to be amended to meet the green economy requirements, as they insufficiently integrate environmental concerns. There is need for an environment-inclusive poverty eradication strategy. Secondly, PEI is a project based in MFDP, with the risk that poverty–environment linkage mainstreaming will not be sustained en route to a green economy. The programme (and green economy) initiatives should be fully anchored and embedded across government and civil society at large.

2.3.2 Natural resource accounting

The Department of Environmental Affairs (DEA) developed natural resource accounts (NRAs) in the 1990s as part of a regional project that also included Namibia and South Africa. Accounts were prepared for two key resources (minerals and water) and for the livestock sector (DEA and CAR 2006 and 2007).⁶ While the accounts were updated and/or expanded several times,⁷ this was done through projects and not as part of the government's regular work programme. NRA is an approach that follows the United Nations' System of Environmental Economic Accounting (SEEA), which integrates environmental concerns into macroeconomic planning. It shows what happens to the natural capital of countries and what the economic benefits and productivity of resource uses are. It also offers the basis for sustainable development indicators such as the ANSI and resource productivity indicators (e.g. value added or employment per 1,000 m³ of water used). While NRA has been piloted for several decades, it gained new momentum in the Rio+20 Summit declaration.

Below, the example of Botswana's water accounts is discussed. *Botswana Water Accounts* cover freshwater resources and treated wastewater for the period 1990–2003. They include physical stock and use accounts (in m³) and accounts for the water supply costs and revenues. Two water-use efficiency indicators were calculated (jobs created per water used, value added per cubic meter of water), while the economic benefits of reuse and recycling of treated wastewater were assessed.

The water accounts led to major findings for greening the Botswana economy (DEA and CAR 2006). Although the stock of surface water has increased over time due to the construction of new dams, the surface water stock is highly variable due to rainfall fluctuations (DEA and CAR 2006). The stock of wastewater is growing fast (and is less variable than surface water), yet this resource is as yet hardly utilised. While agriculture is the largest water-using sector, it generates the lowest value added per cubic meter of water (Table 2.1). The strategic question arises as to how much water can be allocated to agriculture in future. There is need for formal water allocation mechanisms, and reuse of treated effluent should be encouraged. Finally, water reticulation losses are around 20–25 per cent and can be reduced. It also became clear that the government heavily subsidises the water sector, raising concerns about long-term sustainability and opportunity costs.

Botswana has started to update and expand its natural resource accounting activities over the period 2012–2015 through the WAVES partnership with the World Bank.

Table 2.1 Water productivity (value added per m³ by sector; 1993/94 BWP)

User category	1993	1998	2002	2003
Agriculture	6	6	5	4
Mining	274	257	257	260
Manufacturing	194	219	144	138
Water + electricity	190	357	942	654
Construction	2,294	4,890	2,395	2,468
Trade	1,116	1,800	1,543	1,445
Hotels and restaurants	276	373	334	321
Transport + communication	2,448	3,221	2,441	2,428
Insurance, banking, business	2,421	2,884	2,577	2,666
Social and personal services	382	494	1,247	1,282
Government	236	237	270	271
Total national water productivity	76	91	93	106

Source: DEA and CAR 2006

There is no guarantee that resource accounts will be better kept and used, but there are reasons for optimism:

- the accounts will be institutionalised at the onset rather than at the end and the host institution will develop capacity and expertise to maintain and use the accounts;
- high-level political commitment to NRA as shown by the Gaborone Declaration on Sustainability in Africa; and
- resource concerns are more pressing than before and the use of resource accounts offers valuable information for decision-makers.

The scoping study for WAVES-Botswana identified priority areas to enhance green growth in Botswana (CAR and Econsult 2012). The government decided to prioritise the updating and expansion of the water accounts. Other activities important for a green economy will be the development of sustainable development indicators, mineral and energy accounts, and ecosystem accounts and valuation (e.g. for Chobe PA). Capacity building and enhanced communication across selected sectors is planned to sustain resource accounting beyond the WAVES partnership between the World Bank and the government. The planned national forest monitoring system, mentioned during the interviews conducted for this study, could be used to develop forest accounts and community forest management models.

Lessons learned from resource accounting that are important for small states are:

- resource accounts provide vital information about a country's natural capital (stock and use) for a green economy and should therefore be developed by all countries;
- resource accounting needs to be properly institutionalised up-front, and it is vital that the host institution(s) is capable to carry out the NRA after the end of

the project (there is also need to build and retain human resources capacity in resource accounting); and

- policy-makers need to be engaged at the start to assess their needs and raise awareness. The choice and prioritisation of accounts should be determined by the country's conditions and priorities.

2.3.3 Botswana and green economy policy initiatives

The Botswana government, in partnership with Conservation International (CI), hosted the Summit for Sustainability in Africa in June 2012 (GoB and CI 2012). This summit brought together African Heads of State and ministers from ten countries,⁸ alongside world leaders from the public sector, private sector and civil society. The purpose was to identify the main sustainable development issues in Africa and to chart a path towards sustainable development. The summit produced the 'Gaborone Declaration',⁹ which contains principles and goals of sustainable development with natural capital at its core. The declaration urges countries to re-affirm their commitment to implement conventions and declarations that promote sustainable development, as an alternative to the 'business as usual' pattern of natural resources exploitation which has failed to promote sustained growth, environmental integrity and improved social capital. The key feature of the declaration is the fact that the value of natural capital must be fully accounted for and integrated into national and corporate planning and reporting. It was agreed that:

- the value of natural capital would be integrated into national accounting and business practices;
- social capital would be created and poverty would be reduced by promoting sustainable development;
- knowledge, data and capacity would be built for informed decision-making on sustainable development; and
- good communication and public education would be built.

Ten African countries have signed this declaration and are expected to implement the actions. Corporate leaders and leaders of UNEP and several donor agencies have signed up. This should create opportunities for partnerships, knowledge, technology and capacity sharing, as well as opportunities for green investments.

As one of the two African countries represented on the Bureau of Rio+20, Botswana played a special role in the summit's preparations and dialogues at the regional and continental levels. The country was active in the preparation of the Africa Consensus Statement for the summit, where Africa's progress towards sustainable development was discussed (United Nations Economic Commission for Africa 2011). Rio+20 focused on two themes: (1) building a green economy to achieve sustainable development and lift people out of poverty; and (2) improving international co-ordination for sustainable development. As part of Rio+20 preparations, Botswana developed a vision of a green economy through stakeholder consultations. The vision

is a people-oriented sustainable and inclusive development pathway which covers the following aspects:¹⁰

- improved competitiveness through diverse, productive and sustainable operations;
- well-networked stakeholders with improved information flows, more innovation and partnerships;
- empowered citizens, poor people in particular, with decent jobs and livelihoods;
- an enabling environment with incentives for a green economy;
- government operations are carried out in an exemplary, consistent, green and ethical manner;
- private sector-led green growth, with the private sector taking initiatives and transforming itself to become more efficient and inclusive;
- mobilisation of domestic investment and responsible foreign investment for green infrastructure, goods and services;
- mainstreaming of major issues such as environment, biodiversity, desertification and poverty eradication;
- strong, action-oriented leadership;
- improved economic, social and environmental resilience through more integrated, coherent and forward-looking planning;
- accountable stakeholders through transparent information on resources and a robust legal framework; and
- use of solid knowledge, scientific and cultural principles, including indigenous knowledge and the Botswana concept of *Botho* (which captures the values of 'humanness', respect, courtesy, integrity and dignity).

As indicated above, Botswana also seeks to mainstream natural resource accounting into development planning and to develop new sustainable development indicators. Furthermore, it wishes to promote sustainable production and consumption patterns. Both are important components of a green economy.

The results of the summit are presented in *The Future We Want* document (United Nations 2012) which commits countries to pay attention to climate change, develop green economy policies and develop policies for sustainable development. New public–private partnerships are encouraged to mobilise funding. However, countries did not make binding commitments, there are no clear targets or timelines and no new pledges were made. Despite the summit's disappointing results, the government has recommitted itself to developing a roadmap towards a green economy and sustainable development with agreed targets for each proposed activity. This roadmap needs to be integrated into the NDP10 mid-term review process, and particularly in the NDP11 framework.

Several lessons were learned that may be relevant to other small states:

- The natural capital concept, natural resource accounting and the NSSD can guide Botswana towards a sustainable pathway, which needs to be reflected in the (next) National Development Plan. Botswana needs to develop the roadmap of action items for the fulfilment of the Rio+20 declaration.
- Small states can successfully augment their influence through regional initiatives such as the Gaborone Declaration.
- Strategic partnerships with private sector and non-government agencies offer new opportunities for greening Botswana's economy. Private sector partnerships are particularly important for future green investments in technologies and human resources.
- Sustainable development and a green economy require prioritisation in the allocation of financial resources. As funding and technology-sharing commitments are limited in *The Future We Want*, small states such as Botswana need to identify and rely on their own public, domestic and international private resources for funding. In Botswana, the new National Environmental Fund should have a green economy window to accelerate green investments and activities.

2.3.4 Integrated water resources management and water demand management

As a semi-arid and water-scarce country, Botswana has developed National Water Master Plans (1991 and a review in 2006) to guide the provision of water in all cities, towns and villages (SMEC et al. 1991 and SMEC and EHES 2006). Prioritising the water supply to settlements and realising its capacity constraints, the government issues water-use rights to farmers and enterprises that operate outside settlements.¹¹ These constitute the self-providers, who actually use more water than the water service providers. In recognition of water scarcity, the government switched in the 1990s from food self-sufficiency to food security. As a result, the irrigation sector is small (1,800 hectares [ha]) and the country achieved huge water savings through food imports (water savings of 978 Mm³/annum; Mekonnen and Hoekstra 2011). The 1991 NWMP largely recommended expansion of water infrastructure (dams, well fields and water transfer schemes) and, as a result, water shortages were generally avoided; shortages only occurred during severe droughts and locally due to borehole breakdowns. The NWMP Review 2006 recommends a switch towards water demand management (WDM) and integrated water resources management (IWRM) for environmental, economic and social reasons. The options for expansion of water infrastructure are increasingly limited and costly, requiring costly long-distance water transfer schemes. This could make water unaffordable in future and/or require subsidies, which are likely to be unsustainable for government. Water from the Chobe Zambezi (1,000 km from the capital Gaborone) is considered the only remaining large-scale water supply option beyond 2030. Use of the Chobe Zambezi River is governed by the Southern African Development Community (SADC) Protocol on Shared Water Courses (2001), and requires approval and co-operation of other

riparian states. The NWMP Review concluded that IWRM and WDM should be government priorities, with a strong emphasis on increasing the efficiency of sectoral water use and on the hitherto neglected areas of allocative efficiency.

In response, the government has engaged in initiatives to promote and practice IWRM, including the water sector reforms (jointly carried out with the World Bank) and the preparation of the Global Environmental Facility-supported IWRM-Water Efficiency Plan (IWRM-WE). Ongoing institutional reforms have led to a better separation of water sector responsibilities, and to the integration of wastewater and freshwater management. They have resulted in a new water policy based on IWRM principles and are expected to lead to a new Water Act to replace the current 1968 one, as well as a water tariff policy. The Water Utilities Corporation (WUC) is now responsible for water supply services and wastewater management for all cities, towns and villages. The Department of Water Affairs has become responsible for water resources planning, including infrastructure development and water resources management. A water (and energy) regulator will be established to benchmark the performance of WUC and self-providers. A new independent Water Resources Board (WRB) will be established to oversee water allocations and general water resource management and planning. It is still too early to assess the results, but the reforms have the potential to allocate and use water resources more efficiently, including full reuse of treated wastewater (currently reuse is low at 10 per cent; the policy target is to reuse 96 per cent by 2030). For example, it is expected that WUC will establish a combined water charge without significant subsidies. However, the risk exists that IWRM and WDM are given insufficient attention during the current transition, in which WUC experiences pressure to deliver.

A national IWRM-WE plan was finalised in May 2013 (Department of Water Affairs Ministry of Minerals, Energy and Water Resources 2013). Herewith, government met its pledge made at the 2002 World Summit for Sustainable Development (WSSD) to prepare the IWRM-WE plan. The plan sets out a national strategy with a vision, objectives and strategic areas that must be addressed. Furthermore, the plan recommends a sequence of actions that should be carried out over a specified period of time so as to transform existing practices to sustainable ones. Apart from the ongoing water reforms, the following strategic areas have been prioritised: increasing water efficiency allocation, water supply and WDM, IWRM mainstreaming in development and land-use planning, establishment of an IWRM-enabling policy environment, implementation of a decentralised catchment area approach, management of shared water courses, increasing stakeholder participation in water resources management, capacity building in IWRM and WDM, and water pollution control and maintaining good water quality that meets ecological water requirements. Climate change, poverty, gender and HIV/AIDS have been identified as cross-cutting issues that need to be incorporated in all strategic areas. Some conclusions from the analysis for a green economy are:

- water reticulation losses (currently 20 to 25 per cent) must be reduced;
- water wastage, particularly common in schools, must be stopped;

- Botswana needs to develop a country-wide inventory of allocated water rights;
- successfully piloted water savings measures with a short pay-back period need to be scaled up;
- water allocation mechanisms need to be devised to maximise future economic growth and welfare; and
- as climate change is likely to increase rainfall variability and evaporation, safe yields from dams are expected to decline and more water needs to be stored; in this respect, transfer schemes and conjunctive use can increase safe yields.

In future, Botswana is expected to need shared water given the domestic water limitations. For this to happen, the country needs approval from other basin countries and needs to utilise domestic alternatives of comparable value first. WDM and IWRM implementations are therefore crucial; specifically, reuse and recycling of treated wastewater, rain/storm water harvesting and efficient water use and conservation in high water-using sectors such as agriculture.

Several lessons can be learned from greening the water sector in semi-arid small states such as Botswana:

- Successful pilot and demonstration projects need to be urgently scaled up to conserve water. They are often win-win cases with water and costs savings.
- Government is often least responsive to water conservation needs due to lack of incentives and bureaucratic mechanisms; in contrast, the mining sector often conserves water due to on-site resource constraints and may have valuable experience to share.
- Without water demand management, water scarcity can restrict economic growth and increase costs. The water conservation sector could become one of the economic diversification sectors, if it is developed now.

2.3.5 Community-based natural resource management

Community-based natural resource management (CBNRM)¹² is an approach to resource conservation and rural development that gives conditional resource-use rights to local communities to manage and benefit from the management and use of natural resources around them (DWNP and MEWT 2010). It was introduced to Botswana in the Chobe Enclave and has rapidly expanded over the years (see e.g. Arntzen et. al. 2003; Mbaiwa 2011). Most CBNRM projects have developed in wildlife-rich areas in northern and western Botswana. Over time, CBNRM has diversified to ecotourism and non-wildlife-based activities and resources (e.g. veld products). To date an estimated 135,000 people live in CBNRM areas across ten districts (Mbaiwa 2011); this is 6.5 per cent of the country's population. A total of 105 community-based organisations (CBOs) are registered, but less than half are operational. CBNRM is successful in resource-rich villages (usually close to protected areas), but it has had limited success or has even failed in villages with few resources (Mbaiwa and Stronza 2010). In Ngamiland and Chobe District,

wildlife-rich CBOs earn BWP2–4 million per annum and CBNRM has created economic benefits such as jobs/employment, funding for community projects and support for orphans and elderly people. The wages associated with CBNRM have contributed to poverty alleviation (Mbaiwa and Stronza 2010). In areas with fewer resources, earnings are low and insufficient to support livelihoods and community projects. In all CBNRM projects, CBNRM benefits are too little to become the sole source of livelihoods (Arntzen et al. 2003).

In 2007, the CBNRM policy was approved to provide an enabling environment for CBNRM operations. Communities may acquire resource rights after forming a community organisation (a representative, accountable and legal entity), developing an environmental and resource management plan and annual submission of financial accounts. Communities can acquire a wide range of resource user rights (e.g. veld products, wood resources, fish and wildlife). The policy stipulates that communities have to cede 65 per cent of the wildlife royalties to the National Environmental Fund.

Despite its failure in villages with a limited resource base, CBNRM has been successful elsewhere (DWNP and MEWT 2010; Mbaiwa 2011). The CBNRM programme has expanded over time to cover a significant part of the rural population in Botswana. In some villages, the impact of CBNRM on the income and welfare of individual households has been significant, as have the socioeconomic benefits for the wider communities (Mbaiwa 2011). CBNRM has contributed to rural economic diversification. However, only a few CBOs have distribution strategies that ensure that benefits trickle down to the household level. Where benefits have not been shared equitably, conflict has arisen within communities. Some CBOs provide elderly people with monthly allowances, build houses and provide water reticulation to communities. There is some evidence that poaching in CBNRM areas is lower than in other areas (Arntzen et al. 2003) and that biodiversity in Wildlife Management Areas (WMAs), where most CBNRM projects are located, is better than in communal agricultural areas (CAR 2006).

Impact assessment is difficult because there has been no baseline assessment and monitoring is inadequate. The general feeling is that Botswana's CBNRM projects have not fully exploited the potential of positive impacts on livelihoods and resource conservation. Livelihood improvements are limited and not evenly distributed, and people's perception towards wildlife remains largely negative. Communities need more support from government and civil society to develop the required technical, administrative and financial skills and to grow as a community. CBOs that have entered into partnerships with commercial tourism operators exist for a longer time and tend to perform better (Arntzen et al. 2003). Despite these challenges, the Botswana CBNRM programme has demonstrated its potential by giving economic value to natural resources, devolving power to local communities and establishing collective proprietorship by communities in resource management and tourism development (Mbaiwa 2011).

The lessons learned, relevant for a green economy, are:

- community trusts perform better when they have a Joint Venture Partner (JVP) who brings in expertise and investments;

- well-implemented CBNRM can alleviate poverty, improve livelihoods and change people's negative perceptions towards wildlife;
- more secure user resource-use rights could be a strong incentive to resource conservation and sustainable utilisation;
- CBNRM empowers communities, but they still need support to successfully operate CBNRM projects; and
- funds accrued from CBNRM projects need to trickle down to households, so that they can realise project benefits and develop a positive attitude towards wildlife and other natural resources.

2.3.6 Lessons from relevant initiatives

The initiatives discussed above are important for greening the economy, but they still face challenges that need to be addressed to ensure their success. The following lessons that may be relevant for other small states are drawn from across these initiatives:

- Projects and initiatives may be well designed, but have no impact without proper implementation. Project and programme implementation is a large challenge in Botswana (e.g. due to capacity constraints and inadequate monitoring and evaluation), and effective implementation needs to be fully incorporated in the design of projects and programmes.
- The green economy approach needs to be properly anchored in the national development planning process through the development of an NSSD, sustainable development indicators, an enabling environment and natural resource accounting. External projects and technical advice can work as catalysts, but cannot replace government commitment and efforts towards a green economy.
- The green economy process should be understood by all stakeholders. This is necessary to mobilise finances, facilitate implementation and to get participation by the private sector and civil society. Botswana's recently adopted thematic working group approach, with membership across economic sectors and including state and non-state actors, ensures intersectoral dialogues in development planning and implementation, with participation of non-government organisations.
- The formation of partnerships (private–public, private–community and public–community) and capacity building among all stakeholders are prerequisites for sustainable development and green economy initiatives. Government and other relevant stakeholders must therefore ensure that capacity needs assessments are undertaken, capacity is enhanced among decision-makers, managers, implementing agencies and communities at large, and that effective partnerships between different stakeholders are encouraged. Human capacity needs to be retained within implementing agencies.
- The success and ownership of sustainable development and green economy initiatives largely depend on government support and decision-making at the highest level. Political will and commitment are crucial for sustainable green growth.

2.4 Opportunities for greening Botswana's economy

Based on the first three sections, the opportunities for greening Botswana's economy will be reviewed here. Botswana's economy has grown and livelihoods have improved. This has resulted in significant poverty reduction. However, income inequality remains very high and access to land and water resources has become more skewed due to resource privatisation. Growth has been accompanied by a small 'hard core' rangeland degradation, bush encroachment, draw-downs of some aquifers, biodiversity losses and an expanding carbon footprint. The country is vulnerable to climate change and has yet to develop a climate variability adaptation strategy. Climate change will increase environmental hazards such as droughts. Botswana has successfully captured most of the economic rent from minerals and used these to build up other human, physical and financial capital assets. This includes the establishment of internet facilities in most villages and computer laboratories in most schools. Below, we discuss the major action areas for achieving a greener economy.

2.4.1 Renewable natural resource-based economic diversification

Economic diversification needs to be based on renewable resources such as wildlife, wilderness and useful veld products (e.g. fruits, vegetables and medicines). The (eco-) tourism and hunting sectors have driven diversification to date, but it is highly concentrated in the Okavango Delta and around the Chobe River. Diversification of tourism products and a more even distribution of tourism around the country would benefit rural development and reduce tourism pressure on the Delta and Chobe. The Botswana Tourism Organisation, among others, attempts to achieve this by organising adventure and cultural tourism throughout the country (e.g. cultural villages, the Kalahari Desert Off-Road Race for cars and motorbikes, and the 2012 Khawa Sanddune Race for motorbikes and quad bikes). Other opportunities for economic diversification based on natural resources include:

- Game ranching. Botswana's game ranching sector is small and has a significant development potential. Game ranching is well adapted to climate change and taps into local and international markets. Opportunities also exist in the development of game ranching and the venison market (domestic and for export) with different products (dried, fresh or frozen meat). Most game meat is low in cholesterol and popular in overseas and domestic markets.
- Use and processing of veld products with an economic development potential. These include the morama bean, grapple plant, mophane worm, Kalahari truffle and various teas, vegetables, fruits and medicines (e.g. hoodia to suppress appetite). These resources have been neglected to date.
- Production of charcoal or power from removal of excess bush, as is done in neighbouring Namibia (which exports charcoal to Europe).
- Agricultural diversification and production for niche markets. For example, livestock production is largely free ranging and a livestock tracer system exists to meet export requirements. Provided that rangeland management is improved,

there are opportunities to maintain and better exploit Botswana's sustainable livestock production practices for environmentally-friendly niche markets (e.g. free ranging beef).

- Establishment of solar power and water conservation industries. This will have environmental and economic benefits, but requires research, innovation and investments. There is a considerable regional market for solar power and water-efficient appliances.

2.4.2 Reducing natural resource wastages

Good opportunities exist to reduce resource wastage by reducing losses in water distribution networks, reuse and recycling of treated effluent and some solid waste (e.g. building rubble, cans, plastics, paper and bottles). Small-scale recycling projects have the potential to create jobs and reduce poverty. They can be win-win situations with environmental and economic benefits.

Resource wastage also results from inefficient resource allocation. Currently, large parts of communal land are under-utilised and water resources are allocated on a first-come, first-served basis. There is need to develop efficient and fair resource allocation mechanisms that contribute more to productivity, bearing in mind the need for social equity and sustainable resource use.

2.4.3 Maintaining renewable natural capital

In order to maintain natural capital, stock and use need to be documented and monitored. This is not yet the case, but gaps are expected to be filled by ongoing registrations of land and water-use rights and by the construction of natural resource accounts. Access to land and water needs to be documented to ascertain fair access to natural resources – to reduce poverty and uplift marginal groups.

Special efforts are needed to rehabilitate degraded rangelands and to prevent biodiversity losses. This can be done through improved implementation of the current CBNRM approach, which also has the potential to reduce poverty and uplift marginalised groups.

Past economic valuations of the Okavango Delta and the Makgadikgadi wetland have shown the high value of these ecosystems, and have provided impetus for the development of comprehensive resource management and development plans. Valuation exercises should be extended to all key ecosystems of the country, to show their importance for rural livelihoods and the national economy.

2.4.4 Enhancing the green economy policy environment

The government is planning initiatives towards establishing a supportive environment for the green economy. The planned NSSD, sustainable development indicators and resource accounting will become vital parts of such an environment. There is an urgent need to develop a climate change resilience and adaptation strategy that covers impacts, mitigation and adaptation measures for the entire country and for individual sectors.

Another area for further action is the review and reform of current (dis-)incentives for sustainable resource management and the green economy (economic, legal and consultative instruments). The government has provided subsidies for various sectors for years (e.g. agriculture and water). The results have been disappointing, and the same level of subsidies cannot be sustained by government in future. Subsidies with negative environmental impacts need to be phased out and incentives for sustainable resource use should be provided if these are to act in the public interest.

Continued consultations with stakeholders (beyond Rio+20) should lead to a *Green Economy Covenant* to which the public and private sectors, as well as civil society, are committed.

2.4.5 Green technology development

Botswana has well-established research and technology institutions that can prioritise green technology development. The institutions include the University of Botswana, Rural Industry Promotion Corporation (RIPCO), the Department of Agricultural Research and the Botswana Technology Centre (BOTEC). The Ministry of Science and Technology also has a research department that promotes research. In addition, the Innovation Hub aims to develop new technologies and innovation. However, past work has been ad hoc and a green technology fund could be established to develop a focused and comprehensive green technology drive. This should be a partnership between the public and the private sectors, and the fund should establish priorities for technology development. Priority areas would include solar power (for small-scale rural applications and large-scale applications), water conservation technologies (e.g. with conservation agriculture) and carbon emission-reduction technologies. An interesting example is the piloting of biological control methods (e.g. chilli peppers to reduce crop damage and use of birds of prey against crop damage by quelea birds). However, private sector participation should be enhanced to support this initiative, especially in the development of technology, retail and the wholesaling of solar power equipment to enhance its utilisation. There are opportunities for biogas production close to abattoirs, a pilot project with jatropha for biodiesel,¹³ and there is a need for the development of storage and processing technologies for agricultural produce and veld products.

2.4.6 Investing in green economy

Investments need to be made by the public and private sectors. The latter will only invest in a favourable policy environment. Green economy funding should increasingly come from the private sector (foreign and domestic). Investments in green economy activities have the potential to generate economic returns (e.g. water conservation) and in those cases, the government only needs to provide an enabling environment. Private sector funds would also be generated from user and pollution charges, which are expected to be deposited in the National Environmental Fund (NEF). The destination of NEF funds is still unclear, but the resources could be used to co-exist with wildlife, develop water conservation and solar power, and stimulate green technologies. Increasing investments in rural communal areas is a major

challenge for the green economy in terms of increasing production and reducing poverty. Some rural investments have been in the tourism sector, but investment in agriculture needs to increase.

2.4.7 Increasing productive use of water and land resources

Botswana needs to use its limited water and land resources more productively. The productivity of communal land can be significantly increased with investment and the introduction of new technologies. Subsistence agriculture is unattractive for young people, and the farming sector requires new, green technologies and investment. This will only happen with more secure land tenure and a more attractive investment climate. It is important that green agricultural modernisation is promoted, rather than adopting developed countries' modern agricultural practices.

The productivity of water needs to be considered after basic needs and ecological water requirements have been met. Mechanisms need to be established to prioritise water allocations based on criteria such as job creation, valued added, food security and poverty reduction. In addition, further water infrastructure development needs to focus on increasing the safe yields of the entire system through conjunctive use, transfer schemes etc. Finally, water demand management is essential to increase user efficiency. For example, eco-labelling could be introduced for water and energy conservation, organic production practices etc.

2.5 Institutional structure and capacity for greening the economy

Botswana has a strong and large public service, which has driven the good governance performance to date. By contrast, civil society is small and struggling, particularly after most international co-operating partners withdrew their programmes after Botswana attained MIC status. The country has been unable to date to establish adequate domestic support mechanisms for civil society. While the private sector has grown, it remains dependent on government as its largest client.

Key informant interviews showed the widespread perception that implementation of programmes, strategies and policies is the most serious institutional constraint. A range of policies and legislation exists, but implementation is often poor and sometimes even absent. Bureaucracy has increased, stifling innovation and dynamic development. This has contributed to the reduction in global competitiveness,¹⁴ making it more difficult to attract foreign direct investment. Clearly, maintaining and growing the country's capital base is a necessary but insufficient condition for future economic development. In the end, the productive and efficient use of capital matters. The government views its role as that of facilitator of development rather than implementer (e.g. NDP10; Government of Botswana 2009). Therefore, current government policies seek to encourage decentralisation and privatisation. The implementation of these policies has been slow, and in some cases the opposite happens (e.g. centralisation of healthcare and some educational facilities).

Botswana's small population poses human resource constraints and it is therefore critical that the limited available capacity is used productively and efficiently. Fortunately, the educational level and skills have greatly improved over time, offering good opportunities for greater productivity and efficiency. Such opportunities must be seized to transform into a green economy. To deal with capacity constraints, a greater role for the private sector, civil society and communities is required. A major policy caveat remains the absence of an umbrella Environmental Management Act (EMA),¹⁵ to outline the management requirements of the country's natural capital and ensure its proper conservation and use. The EMA should formalise environmental governance principles such as the user-pays principle, the polluter-pays principle and the precautionary principle. While a draft has existed for some time, it has not yet been finalised or approved.

The new thematic working groups (TWGs) charged with development planning offer good anchor points for a green economy. These groups need to be properly embedded across government structures, and in society at large. To achieve the former, good collaboration and co-ordination with existing ministries and so-called hubs (e.g. innovation, agriculture, diamonds, education) are required. To achieve the latter, the TWGs need to have representation from the private sector and civil society (e.g. NGOs, lobby groups, academia). The National Strategy Office (NSO) co-ordinates the work of the TWGs. It is too early to judge the results of the TWG approach. The government plans to develop a NSSD, which should form the policy umbrella for a green economy. With the TWGs and once the NSSD is in place, Botswana needs to rebrand the next NDP to a National *Sustainable* Development Plan.

Finally, greater participation by civil society and the private sector is needed to reduce the government wage bill and to develop and use the capacities of those sectors better. This should stimulate more innovative development and new private sector and community initiatives. The community-based rural development strategy and CBNRM are particularly important. Furthermore, there is need to stimulate research and development aimed at boosting green economic growth (see also section 2.4).

2.6 Concluding remarks

Botswana already seeks to transform towards a green economy and has several initiatives in place (section 2.3). It has adopted a thematic working group approach, which has good potential to move towards a green economy. One group deals with 'sustainable environment', with stated priorities of sustainable resource management and use, adaptation to climate change and pollution control. During Rio+20 preparations, three sectors were prioritised: agriculture, water and transport. From a green economy perspective, the destination of mineral revenues to support economic diversification and transition to a green economy needs to be prioritised as well. Furthermore, increasing resource-use efficiency is vital for the country's future; this includes reuse and recycling of solid waste and wastewater, but also requires efficient resource allocation mechanisms, especially for water and land. Finally, solar power and water conservation industries can be developed to contribute to economic diversification.

In terms of the enabling environment, plans for the NSSD and development of sustainable development indicators need to be implemented. The EMA needs to be finalised and approved and a Climate Change Mitigation and Adaptation Strategy needs to be developed (this is also in view of Botswana's increasing carbon footprint). Finally, a systematic review of incentives for a green economy needs to be conducted, covering economic, legislative and consultative incentives. The results could lead to a National Green Economy Covenant, signed by government, the private sector and civil society. Environmentally damaging subsidies need to be removed, as well as subsidies that government cannot afford in future. Incentives for green investment, technologies and production and consumption practices need to be considered.

As a small state, it is imperative that Botswana utilise its limited institutional and human resources to implement green economy activities efficiently, to monitor and evaluate progress and results, and to better exploit modern communication and technology opportunities. Efficient use of capacity requires developing partnerships and anchoring individual projects within existing institutions. Monitoring and evaluation requires indicators for sustainable development and a green economy, while natural resource accounts will provide additional information. Better exploitation of opportunities provided by the internet, computers and mobile networks, as well as research, is needed to increase productivity and international competitiveness.

Notes

- 1 'A gha is a productivity-weighted area used to report both the biocapacity of the Earth, and the demand on biocapacity (the ecological footprint). The global hectare is normalised to the area-weighted average productivity of biologically productive land and water in a given year. Because world bioproductivity varies slightly from year to year, the value of a gha may change slightly from year to year' (Global Footprint Network 2012). Source: WWF 2012, 148.
- 2 Imported electricity was cheaper and the local power plant had a limited capacity.
- 3 In recent years, no regular aerial wildlife counts have been carried out and therefore no data are available after 2007.
- 4 This is an agricultural input subsidy programme for small subsistence farmers, aimed at reviving the agricultural sector and reducing poverty.
- 5 In partnership with MEWT and the International Institute of Environment and Development (IIED).
- 6 The reports are available from: www.car.org.bw and www.envirobotswana.gov.bw accessed 18 February 2014
- 7 Previous NRA work established accounts, prepared technical notes for regular updating and policy notes to inform decision-makers about the main findings which could support the decision-making process.
- 8 Botswana, Gabon, Ghana, Liberia, Kenya, Mozambique, Namibia, Rwanda, South Africa and Tanzania.
- 9 Available at: www.gaboronedeclaration.com/ accessed 18 February 2014
- 10 Discussed and agreed on at the 2011 stakeholder workshop on green economy. This was an inclusive process that involved participation of stakeholders from various organisations.
- 11 Government owns all water resources.
- 12 CBNRM was first introduced in Zimbabwe under the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) programme. It has spread to most southern and eastern African countries since then.

- 13 Given the low food production, priority should be given to food crops at the moment.
- 14 The decrease in global competitiveness is also due to capacity constraints, work attitudes and management.
- 15 The EIA legislation protects the environment from adverse impacts of projects, but does not guarantee a holistic environmental management approach as the EMA should provide.

References

- Arntzen, JW, DL Molokomme, EM Terry, N Moleele and O Tshosa (2003), *Final Report of the Review of the Community Based Natural Resources Management in Botswana*, IUCN.
- Botswana Institute for Development and Policy Analysis (BIDPA) (2012), *A Study of the Contribution of Sustainable Natural Resource Management to Economic Growth, Poverty Eradication and Achievement of NDP10 Goals*, report prepared for PEI Botswana.
- Centre for Applied Research (2006), *Environmental Assessment of the Livestock Sector: Livestock, Wildlife and Natural Resources*, report prepared for MFDPA and the World Bank.
- Centre for Applied Research and Econsult (2012), *Scoping Report for Wealth Accounting and Valuation of Ecosystem Services in Botswana*, report prepared for the World Bank and the Government of Botswana.
- Commonwealth Secretariat (2012), 'Green Growth in Poor, Small and Vulnerable States: The Green Economy as a Transformation Pathway to Sustainable Development', a paper for the Commonwealth-Francophone-G20 Development Working Group Outreach Meeting, April 2012, Washington DC.
- Central Statistics Office (CSO) (2000), *Environmental Statistics*, the Government Printer, Gaborone, Botswana.
- CSO (2006), *Wildlife Statistics 2004*, the Government Printer, Gaborone, Botswana.
- CSO (2009), *Wildlife Statistics 2008*, the Government Printer, Gaborone, Botswana.
- Department of Environmental Affairs and Centre for Applied Research (2006), *Botswana Water Accounts 1992–2003*, available at: <http://www1.eis.gov.bw/EIS/Reports/Water%20Accounts%20of%20Botswana.pdf> (accessed 18 February 2014).
- Department of Environmental Affairs and Centre for Applied Research (2007), *Towards Mineral Accounts for Botswana*, Government of Botswana, available at: <http://unstats.un.org/unsd/EconStatKB/KnowledgebaseArticle10064.aspx> (accessed 18 February 2014).
- Department of Water Affairs Ministry of Minerals, Energy and Water Resources (2013), *Botswana Integrated Water Resources Management and Water Efficiency Plan*, Government of Botswana, Gaborone, Botswana.
- DWNP and MEWT (2010), *Community-Based Natural Resources Management in Botswana (Practitioners Manual)*, Government of Botswana, Gaborone, Botswana.
- Econsult and CAR (2008), *Botswana Human Development Report 2008*, unpublished.
- Government of Botswana (2009), *National Development Plan 10: 2009–2016*, the Government Printer, Gaborone, Botswana.

- Government of Botswana and UNDP (2010), *Second Progress Report MDG Achievement*, Government of Botswana and UN Botswana, Gaborone, Botswana. Available at: www.africa.undp.org/content/dam/undp/library/MDG/english/MDG%20Country%20Reports/Botswana/botswana_2010.pdf (accessed 18 February 2014).
- Government of Botswana and Conservation International (2012), The Gaborone Declaration, prepared for the Summit for Sustainability in Africa.
- Leepile, M (2010), Advocacy and Communication Strategy for Poverty and Environment Initiative Botswana, UNEP and MFPD, Gaborone, Botswana. Available at: www.africa.undp.org/content/dam/undp/library/MDG/english/MDG%20Country%20Reports/Botswana/botswana_2010.pdf (accessed 18 February 2014).
- Mbaiwa, J (2011), *CBNRM Stock-taking in Botswana*, report prepared for Botswana Tourism Organisation and USAID.
- Mbaiwa, JE and AL Stronza (2010), 'The Effects of Tourism Development on Rural Livelihoods in the Okavango Delta, Botswana', *Journal of Sustainable Tourism* Vol. 18, 635–656.
- Mekonnen, M.M. and Hoekstra, A.Y. (2011) National water footprint accounts: the green, blue and grey water footprint of production and consumption, Value of Water Research Report Series No. 50, UNESCO-IHE, Delft, the Netherlands.
- SMEC and Knight Piesold (1991), *The National Water Master Plan*, report prepared for Department of Water Affairs, Government of Botswana.
- SMEC and EHES (2006), *Review of the 1991 Botswana National Water Master Plan*, report prepared for Government of Botswana.
- Statistics Botswana (2011a), Preliminary Results of the 2011 Population and Housing Census.
- Statistics Botswana (2011b), 2009/10 Botswana Core Welfare Indicators Survey.
- Statistics Botswana (2011c), Botswana Statistical Yearbook 2010.
- Statistics Botswana (2012), 2011 Population and Housing Census: Population by Settlement.
- United Nations (2012), *The Future We Want*, the Declaration of the Rio+20 Summit, outcome of the conference: Rio+20 United Nations Conference on Sustainable Development, United Nations Limited Distribution available at: www.uncsd2012.org/thefuturewewant.html (accessed 18 February 2014).
- United Nations Economic Commission for Africa (2011), Africa Consensus Statement to Rio+20, Addis Ababa, Ethiopia, available at: www.uncsd2012.org/content/documents/Final%20Africa%20Consensus%20Statement%20to%20Rio20.pdf (accessed 18 February 2014).
- UNEP (2011), Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication, available at: www.unep.org/greeneconomy/GreenEconomyReport/tabid/29846/language/en-US/Default.aspx accessed 18 February 2014.
- United Nations Environment Programme (2010), *Green Economy: Developing Countries' Success Stories*, available at: www.unep.org/greeneconomy (accessed 18 February 2014).

- World Bank (2010a), *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium*, World Bank, Washington DC.
- World Bank (2010b), Botswana Climate Variability and Change: Understanding the Risks, Policy Note, World Bank, Washington DC.
- World Bank (2011a), Policy Note on the Namibian Livestock Sector, prepared for the National Planning Commission Namibia.
- World Bank (2011b), *Environmental Mainstreaming in the Development Planning Process*, report prepared for the Government of Botswana.
- World Bank (2012), *Inclusive Green Growth: The Pathway to Sustainable Development*, World Bank, Washington DC.
- World Travel and Tourism Council (2007), *Botswana: the Impact of Travel and Tourism on Jobs and the Economy*, report for Botswana Tourism Organisation.
- World Wildlife Fund (2012), *Living Planet Report 2012: Biodiversity, Biocapacity and Better Choices*, available at http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/ (accessed 18 February 2014).