

GREEN GROWTH MOZAMBIQUE

POLICY REVIEW AND RECOMMENDATIONS FOR ACTION



AFRICAN DEVELOPMENT BANK GROUP

**The African Development Bank (AfDB)
Transition Towards Green Growth in Mozambique**

Policy Review and Recommendations for Action



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Acknowledgements

This knowledge product is part of the work undertaken by the African Development Bank in the context of its new Strategy 2013-2022, whose twin objectives are “inclusive and increasingly green growth”. The Bank provides technical assistance to its regional member countries for embarking on a green growth pathway. Mozambique is one of these countries.

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We hope that the information provided here will contribute to broader and more effective efforts to engage African countries in inclusive green growth.

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His Excellency the President of the Republic of Mozambique (center left) Armando Guebuza, with the Minister of Environmental Action Coordination of Mozambique Alcina Abreu, joined by the President of the African Development Bank (left) Donald Kaberuka, and the Director General for the World Wildlife Foundation (right) James Leap, during the launching of the Mozambique Green Economy Roadmap at a high-level side event during the RIO+20 conference in Rio de Janeiro, Brazil in June 2012.

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ACRONYMS

AfDB	African Development Bank
ASC	Aquaculture Stewardship Council
BAGC	Beira Agricultural Growth Corridor
CIF	Climate Investment Funds
CO ₂	Carbon dioxide
CONDES	National development sustainable development counsel
CSO	Civil Society Organisation
CTA	Confederation of Business Association
EAF	Ecosystem Approach to Fisheries
ENDE	National Strategy for Economic Development
FEMA	Business Forum for the Environment
FSC	Forest Stewardship Council
FUNAE	National Energy Fund
GE	Green Economy
GHG	Greenhouse gas
IESE	Institute for Social and Economic Studies
IIF	Integrated Implementation Framework
IFC	International Finance Corporation
IFC PS 6	IFC Performance Standard 6
INAM	National Meteorological Institute
INE	National Statistics Institute
INGC	National Calamity Management Institute
InVEST	Integrated Valuation of Ecosystem Services and Trade-offs
MCT	Ministry of Science and Technology
MF	Ministry of Finance
MFP	Ministry of Public Administration
MICOA	Ministry of Environmental Action Coordination
MINAG	Ministry of Agriculture
MISAU	Ministry of Health
MITUR	Ministry of Tourism
MOPH	Ministry of Public Works and Housing
MPD	Ministry of Planning and Development
MTC	Ministry of Transport and Communications
MSC	Marine Stewardship Council
NAPA	National Adaptation Programs of Action
PARP	Poverty Reduction Plan
PEDSA	National Strategic Plan for Agriculture Development
PERPU	National Strategic Plan for Urban Poverty Reduction
PPCR	Pilot Programme on Climate Resilience
PPP	Public Private Partnership
RBM	Rights Based Management
REDD	Reduced Emissions from Deforestation and Forest Degradation
RIL	Reduced Impact Logging
SADC	Southern African Development Community
SDI	Spatial Development Initiative
STWH	Solar Thermal Water Heating
Tcf	trillion cubic feet
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WAVES	Wealth Accounting and Valuation of Ecosystem Services
WWF	World Wildlife Fund



EXECUTIVE SUMMARY

Mozambique's Green Economy: from vision to action

The Republic of Mozambique (Mozambique) has seen in recent years both impressive economic growth and persistent poverty. It has discovered large new coal and natural gas reserves while facing a declining natural resource base. It has increasingly faced the emerging challenges posed by climate change.

To respond to these challenge, the Government of Mozambique (**GoM**), together with the African Development Bank and other key development partners, launched an ambitious, high-level Roadmap for a Green Economy (**GER**), in which it established the objective of becoming:

...an inclusive middle income country by 2030, based on protection, restoration and rational use of natural capital and its ecosystem services to guarantee development that is sustainable, inclusive and efficient, within the planetary limits.” (GoM 2011 GER, p. 24).

To operationalize the ambitious goals of the GER, the government prepared a Green Economy Action Plan (**GEAP**)¹. The GEAP is expected to shape the government's 5-year plan (PQG) and provide the basis for greening the National Development Strategy (ENDE) currently under development by the GoM.

This report is a summary of the GoM's development process of the GEAP, its key aspects and the associated Integrated Implementation Framework (IIF), which articulates the GEAP implementation plan.

¹ The Mozambique Green Economy Action Plan was approved by the Council of Ministers on October 15th, 2013, and waits to be published officially.

The GEAP preparation relied on continued support from the development partners, in particular the African Development Bank (AfDB). The key elements of the GEAP development process included the following :

- A participatory approach across ministries and including external stakeholders;
- Comprehensive mapping of policy options across all relevant sectors;
- Ongoing process of prioritization of policy options;
- Identification of ministry/ministries accountable for each policy option and capacity-building needs;
- Identification of financing options;
- Identification of framework for better diagnostics and information dissemination.

Along with a summary of the above elements, this report also provides an analysis of opportunities for future AfDB's institutional involvement in the green growth agenda in Mozambique.

A participatory approach

The participation of all relevant ministries and other government bodies was essential to successful development of the GEAP. This was achieved through the establishment of an inter-ministerial Steering Group with whom the team worked in close cooperation. Development partners, including the AfDB, provided the Steering Group with basic technical training on key green economy concepts at the outset of this exercise, to ensure that its members were equipped to participate and contribute to the process. The GEAP additionally benefited from a public consultation process, done at national and regional levels, with inputs from regional and local authorities, civil society and the private sector.

Comprehensive policy mapping

The GEAP identified three pillars as the major entry points to green economy policy in Mozambique.

1. Sustainable infrastructure: energy, transport, water, irrigation, sanitation, human settlements and cities;
2. Efficient and sustainable use of natural resources: land, agriculture, forestry, tourism, conservation areas, fisheries and mineral resources; and
3. Strengthening resilience and adaptability: disaster risk reduction, education, employment, health and population, gender parity and women's empowerment.

Within these three pillars, 15 sub-sectors and a total of 119 green growth policy options were identified through the technical review and consultative process by the GoM. This exercise presented the Steering Group with a diverse set of policy options from which to identify high value opportunities from green economic policy to be prioritized in Mozambique, which were included in the GEAP.

Policy Prioritization

Among the identified policy options, the Steering Group identified 15 potential priority areas, or “Potential Programmes of Action”, on the basis of meeting a “triple bottom line analysis” – providing long term social, environmental and economic returns – to be integrated in the government’s five-year plan and reflected on the national development strategy. To facilitate this planning process, the GEAP analysis of policy options was complemented with an Integrated Implementation Framework defining an indicative timeline for actions roll out, leading implementation entities and associated costing to guide policy-makers. The breadth and depth of the GEAP’s Potential Programmes of Action remains an ambitious agenda and the GoM’s next challenge is how best to prioritize among these actions.

Potential Programmes of Action

1. Natural capital	Promote mapping, valuation and integration of natural capital in national planning
2. Tenure	Land, forests and payment for ecosystem service compensations
3. Consultation	Community participation in natural capital valuation/planning/management
4. Agriculture	Conservation farming and rainwater harvesting.
5. Fisheries	Ecosystem Approach to Fisheries (EAF) and Rights-based Management (RBM) in the management of artisanal fisheries; promotion of Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) certification in industrial and semi-industrial fisheries
6. Forests	Promote Reduced Impact Logging (RIL) approach, Forest Stewardship Council (FSC) certification and sustainable charcoal production
7. Water	Integrated Water Resource Management (IWRM), River Basin Committees (linking extractives, forestry, hydro-electricity, fisheries)
8. Energy	Renewable Energy Feed-in-Tariffs (REFITs) for small-scale renewables (grid-connected and mini-grid), energy efficiency standards, promotion of clean cooking technologies and tax on charcoal
9. Cities	Green building codes, integration of climate risk in urban planning
10. Green technology	Tax incentives and Special Economic Zones
11. Climate resilience	Upgrading of climate data, adoption of climate resilient standards for infrastructure and building
12. Human capital	Technical and Vocational training in green sectors / Green Jobs Programme
13. Extractives	Implementation of IFC PS6 directives, and compliance with enhanced EITI
14. Economic resilience	Creation of instruments and managing tools to enhance economic resilience, such as a Sovereign Wealth Fund and a domestic investment plan
15. Catalytic funds (cross-cutting)	Providing “patient capital” for smallholder farmers and energy access businesses

Responsibility and capacity

The GEAP also includes needed interventions to create the enabling environment and institutional capacity for the selected policy steps. The Ministry of Planning and Development was identified as the “key coordinator” of the GEAP. Substantial roles were given to the Ministry of Finance, Ministry of Environmental Coordination (MICOA), the Ministry of Foreign Affairs and Cooperation (MINEC), and the National Council for Sustainable Development (CONDES). In each case the GEAP identified places where capacity would need to be strengthened in the relevant ministry or entity in order to implement the relevant responsibility. Consideration was also given to the responsibilities most appropriate to local communities and local planning management forums, such as those related to land use, fisheries and other resource planning.

Financing

GEAP’s implementation requires immediate funding as well as medium-to-long term national budget planning. The GEAP proposes a new financing instrument - a Green Economy Investment Fund (**GEIF**) - to be established with diverse sources of revenue, including from the extractive industry activities. The GEAP also established a detailed USD 2.5 million technical assistance budget for the first phase of implementation from 2013-2014, however internal funding might prove to be challenging as this budget was not included in the GoM’s annual 2014 budget and program. As a consequence, the GoM is discussing support from key development partners in addition to mobilizing existing public resources. The GEAP also notes the importance of aligning national and foreign direct investment with the objectives of the plan.

Diagnostics and information

The preparation of the GEAP also took into account that effective green economic policy making requires substantive upfront diagnostics, and a system for dissemination of findings. In face of considerable knowledge gaps on Mozambique’s natural resources use, the GEAP therefore identified the following measures:

- The monitoring and evaluation by “Development Observatories”;
- A performance and indicators framework lead by the National Accounts System;
- A rapid Natural Capital Assessment to inform the next PQG 2015-2019;
- A public awareness campaign and online platform to engage civil society; and
- Use of Strategic Environmental and Social Assessments as a tool to assess policy alternatives.

A continued role for AfDB

Since inception of this ambitious agenda in early 2012 and ahead of the Rio+20 Summit, AfDB has served as trusted partner to the GoM, providing advisory and technical assistance services in the preparation of the GEAP. In addition, the AfDB has launched its new corporate Ten Year Strategy 2013-2022, with two objectives to improve the quality of Africa's growth: inclusive growth, and the gradual transition to green growth. Looking ahead, as a way to promote the gradual transition of Mozambique to a green growth development model, the AfDB has identified ten potential activities for support to GEAP implementation, mostly in the form of analytical work and technical assistance, in alignment also with its strategy for Mozambique:

1. **Green economy policy scenarios:** Macroeconomic cost-benefit analysis to prioritize GEAP policy options and to support their integration into the upcoming National Strategy for Economic Development (ENDE) and national planning systems, in collaboration with national academic institutions and United Nations Environment Programme (UNEP).
2. **Green jobs assessment:** to identify and promote job creation linked to green industries, as well as greening opportunities in existing sectors, with the International Labour Organization (ILO).
3. **Capacity Development at the Ministry of Planning and Development (MPD):** a secondment programme and training courses to assist MPD staff in integrating green economy policy issues into ENDE, the 5-year Plan (PQG) and annual planning processes.
4. **Natural capital mapping, valuation and integration in planning:** Piloting in select landscapes and provinces in collaboration with World Wildlife Fund (WWF) and UNEP.
5. **Wealth Accounting and Valuation of Ecosystems Services (WAVES)** integration in National Accounts in collaboration with World Bank and Agence Française de Développement (AFD).
6. **Natural gas powered transport study:** Assessment of low-carbon urban transport potential using natural gas, including plan for urban vehicle refuelling network model for attracting investors to develop the refuelling network.
7. **Biodiversity off-sets:** Feasibility study on the application of biodiversity off-sets for residual impacts from extractive industries, adopting International Finance Corporation (IFC) Performance Standard 6 (PS6) into Mozambican legislation in collaboration with World Bank.
8. **Conservation farming programme:** Program to scale-up conservation farming nationwide, learning from Beira Agricultural Growth Corridor (BAGC) experiences.
9. **“Green” Policy Based Lending:** Considering that many GEAP interventions are at the policy level, the Bank's ‘budget support’ could be used to influence key policy choices and provide an entry point for subsequent advisory work.
10. **Climate (green) Fund:** Design and operationalization of a Climate Fund for channelling climate finance to local projects, learning from the Rwanda and Ethiopia experiences, to be developed in collaboration with UNDP.

Conclusions

The GEAP represents a comprehensive effort to integrate green growth principles into Mozambique's development planning process that, if carried out, will place Mozambique on a greener development pathway. The report highlights the crucial necessity of cross-ministerial cooperation, comprehensive analytic review, and most of all pragmatic priority setting. Its breadth and thoroughness at the same time represent a tremendous challenge, which the GEAP itself acknowledges. Various challenges lie ahead for implementation, including significant institutional, informational and financial hurdles and a process of priority setting among a range of policy options. The development of the GEAP nevertheless represents a promising pathway to a greener and more inclusive Mozambique.



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I. INTRODUCTION

1.1. Background

The Government of Mozambique (the GoM) and its development partners have recently engaged in a major effort to incorporate green growth principles into the country's national policy planning. As one of the first countries on the continent to do so, Mozambique's experience will be relevant to other development practitioners, policy makers and experts interested in green growth both in and outside the African Development Bank (AfDB or the Bank).

This report provides a summary of Mozambique's green growth policy development as detailed in the Green Economy Action Plan (**GEAP**)², along with the associated Integrated Implementation Framework (**IIF**), which articulates the GEAP implementation plan, developed by the GoM with the Bank's support. Due to its comprehensive scope and analysis this report does not intend to provide an exhaustive review of all components of the GEAP, rather a description of its main development stages and preparatory work, as well as its key elements and policy recommendations. The first chapter provides the historical context for the development of the GEAP. Chapter 2 provides the process by which relevant stakeholders were identified and the GEAP was developed. Chapters 3 and 4 summarize the GEAP itself. Chapter 3 provides the "menu" of policy options identified by stakeholders and categorized in various dimensions of the economy, while Chapter 4 outlines the GoM's plan for implementing its priorities from the aforementioned menu. Finally, Chapter 5 discusses opportunities for the Bank going forward. The GEAP Policy Matrix is contained in Annex 1, and the complementary Integrated Implementation Framework (IIF) in Annex 3.

² The Mozambique Green Economy Action Plan was approved by the Council of Ministers on October 15th, 2013, and published officially.

1.2. Mozambique in Context: The Rationale for Green Growth

The Republic of Mozambique (Mozambique) has grown at an impressive average rate of 7.2% during the last decade, driven by foreign direct investment (FDI), agricultural growth and infrastructure investment. Since the discovery in 2009 of new “world class” reserves of

first coal and later natural gas, Mozambique’s attractiveness to foreign investors prompted several billion dollars of FDI from the world’s largest mining and oil companies from South Africa, Australia, Brazil, USA, Italy and, more recently, China.

Box 1 - Green Economy Model Characteristics

A *green economy* model is characterized as:

- **Efficient**, where economic growth and resource consumption are progressively decoupled.
- **Sustainable**, as it maintains or strengthens rather than depletes natural, human and social capital, infrastructure, resilience to natural disasters, climate change and economic volatility.
- **Equitable**, in that it significantly reduces inequalities in the distribution of wealth, income and opportunity, and guarantees that the benefits of growth fairly benefit the present and future generations of humanity.

This positive macroeconomic outlook is tempered by Mozambique’s persistent challenges. The country has a poor record of transforming fast economic growth, driven by capital-intensive mega projects, into sustained poverty reduction. According to the poverty census, poverty declined by only 4%, to 54%, between 2003 and 2009. Recent data from a household survey reveals that poverty reduction has virtually stagnated since 2005, with 54% of the population living below the poverty line. The fragilities of the country’s development model were exposed by the civil unrest in 2010.

Official development assistance (ODA) accounts for a substantial portion of Mozambique’s growth: GoM still relies on ODA for 32.5% of its budget (2013). In this context, the extractive industries boom poses challenges alongside

opportunities. The added revenues could provide a development boost. However, in similar situations, it has brought to other countries what many development practitioners call the ‘resource curse’, in the form of real exchange rate appreciation (so-called “Dutch Disease”), civil unrest, rent-seeking, under-investment in productive sectors and other unintended effects of resource exploitation. Extractive industries could also increase the strain on Mozambique’s natural capital and social environment. Finally, the large fiscal revenues deriving from these industries are only to materialize on the mid-to-long term. The timely preparation of proper and adequate policy planning for the new wave of investments could alter this trend for the better, making Mozambique’s growth green and inclusive.

Promoting green growth is about ensuring sustainable human wellbeing on the basis of policies and measures that protect the ecological, social and economic environment. Existing development models have been shown to be destructive to the environment, while failing to eliminate poverty, raise living standards or ensure prosperity. Climate change and the rapidly transforming world economy can exacerbate existing vulnerabilities and introduce new ones if associated risks are not appropriately managed. A green growth model implies an all-embracing, “holistic” approach to economic development, maximizing synergies between economic, social and environmental objectives, and minimizing conflicts and contradictions.

For Africa, the priority is to improve human security – employment, adequate food and water supply, access to health services – and deliver broad-based economic prosperity, making good use of its natural resources. For most of the continent, promoting green growth means addressing existing and emerging development challenges in a manner that does not deplete Africa’s natural capital nor leaves economies and livelihoods more vulnerable to climate change and other environmental, social and economic risks. Such a shift is in tune with the global need to address challenges of resource efficiency, reduce pollution and seek paths to sustainable growth. As the global population increases, the imperative to find greener, more sustainable development models becomes even more urgent. African countries will play an important role in meeting this global challenge.

1.3. Mozambique’s Engagement with Green Growth

1.3.1. Mozambique’s Historic Commitment to Sustainable Development

Mozambique has an historical commitment to sustainable development. Its constitution states “the State shall promote initiatives to ensure ecological balance and the conservation and preservation of the environment, in order to improve the quality of life of its citizens.” Accordingly, the national government is the appropriate body to manage the country’s environmental heritage, as it is responsible for establishing the conditions for the management and use of natural resources while safeguarding national interests. In furtherance of these objectives, a comprehensive, and at times complex, set of government institutions have been created: the Ministry for the Coordination of Environmental Action (**MICOA**); the three Sustainable Development Centres (**SDC**) for coastal areas, urban areas and natural resources; the National Council for Sustainable Development (**CONDES**); the Environment Fund (**FUNAB**); and the National Agency for Environmental Quality Assurance (**AQUA**).

Mozambique has also joined global environmental protection efforts by ratifying the main multilateral environmental treaties related to climate change (including the Framework Convention on Climate Change (**UNFCCC**) and the Kyoto Protocol, biodiversity, desertification, endangered species, hazardous wastes, the Law of the Sea, ozone layer protection, pollution from ships and wetlands. In addition, in 2007, the country adopted the Environmental Strategy for Sustainable Development in Mozambique and several other cross-sector strategies and policies related to sustainable development.

1.3.2. Mozambique's recent commitment to green growth

Mozambique already promotes green growth in some critical areas and new ideas have been encouraged in support of sustainable, long-term development. The country participates in the Pilot Programme for Climate Resilience (**PPCR**), a Climate Investment Funds (**CIF**) program that focuses on increasing resilience in agriculture, transport and the urban environment. Social protection is being integrated into a new policy framework, while efforts are underway to rehabilitate wildlife reserves with local community participation. In energy, plans are being made to extend electricity supplies from existing hydropower sources and to develop new generating capacity from low-carbon sources and natural gas reserves. Furthermore, the draft long-term National Development Strategy (ENDE) 2015-2035 recognizes the fundamental role of sustainable natural resources management if economic development is to benefit present and future generations.

The GoM has acknowledged the challenge ahead, including the importance of transitioning to a new development model that adequately reflect the full social and environmental benefits and costs of various development pathways. The GoM has consequently moved forward with the preparation of a guiding document to frame Mozambique's transition to a green economy model. At a high-level side event during the RIO+20 conference in Brazil (21 June 2012), the President of Mozambique, accompanied by the AfDB President and the Director General of the World Wildlife Fund (WWF), officially launched the document *Rumo a uma Economia Verde*, Mozambique's Green Economy Roadmap (**GER**).

Following this historic launch, and at the request of MICOA, the AfDB committed to support the development and implementation of the GER. The GER became the first official engagement of the Bank on green growth, which is a key part of the Bank's new Strategy 2013-2022.

1.4. The Green Economy Road Map (GER)

In the run up to Rio+20, the GER was rapidly formulated following a sub-regional Green Economy and Strategic Environmental Assessment (**SEA**) workshop hosted in Maputo by MICOA with the participation of the governments of Tanzania and Kenya. Below, key sections of the GER that guided the GEAP preparation are highlighted. This document was led by MICOA, and developed in close collaboration with the **AfDB**, **MPD**, and **WWF**.

Mozambique's vision pursuant to the GER is to become:

"...an inclusive middle income country by 2030, based on protection, restoration and rational use of natural capital and its ecosystem services to guarantee development that is sustainable, inclusive and efficient, within the planetary limits." (GoM 2011 GER, p. 24).

The GER establishes the following key objectives:

1. Ensure economic growth that is sustainable and resilient to climate change through appropriate valuation of natural capital and of its ecosystem services;
2. Ensure restoration and protection of ecosystem assets and services for the benefit of the present and future generations;
3. Guarantee social equity in the distribution of the benefits of natural capital and its ecosystem services;
4. Exploit development opportunities that contribute to the reduction of poverty, creation of green, decent jobs, restoration of the environment and access to services and clean technologies.

Mozambique's pillars for green growth are centred on sustainable infrastructure (transport, energy, cities), efficient and sustainable use of natural resources (water, land for agriculture, forests, fisheries, tourism, minerals and other natural resources), and the strengthening of resilience and adaptive capacity to socio-economic shocks and climate variability. The GER recognises that there are great challenges to achieving sustainable, efficient and equitable green growth. At the same time, it refers to a growing body of evidence from leading international institutions indicating that there are opportunities inherent to the green economy (GE) model – job creation, new business sectors, equitable benefits, public security and sustainability of resource.

In summary, the GER provides a high-level view of the principles guiding Mozambique's green growth strategy, and the necessary pathways to guarantee the transition to an integrated GE model. The resulting actions, instruments and policy reforms are to be structured, prioritized and embodied within the country's strategic documents, starting with the National Development Strategy 2015-2035 currently under preparation, and followed by the government's next 5-year plan (PQG) for 2015-2020. The structuring and prioritization role is undertaken by the **GEAP**³, with the complementary **Integrated Implementation Framework** (see Annex 3), articulating the GER. implementation.

³ The Green Growth Action Plan, reflecting the African Development Bank's preferred and the more commonly used terminology, was changed during the document's preparation, to the Green Economy Action Plan, aligning with the terminology of the Green Economy Roadmap. Although there are some nuanced theoretical distinctions one could make between "green growth" and "green economy", at a broad level this simply shifts the focus from the means (green growth) to the ends (a GE).

Box 2 - Enabling Conditions for Green Growth

Conditions that should be created to enable green growth:

- a) Establishment of strong regulatory standards, and setting inception incentives that are conducive to green economy activity and that remove barriers to green growth
- b) Prioritization of public spending and investments in areas that stimulate and incentivize a sustainability in economic sectors
- c) Appropriate valuation of natural capital stock and services
- d) Valuation of public and private spending, taking into consideration the depletion of natural capital
- e) Use of taxes and market-based tools to stimulate green innovations and investments
- f) Investment in capacity building, training and education
- g) Strengthening of national, regional, and international environmental governance

A key component of the GEAP and the GER's implementation, is the establishment of strong partnerships as a foundation for the successful transition to green growth, including civil society groups, private sector companies and associations, research institutions, government institutions, international organisations and cooperation partners, all of which have a role to play in the transition to a green economy.



II.

COLLABORATION IN ACTION: DEVELOPMENT OF THE GEAP



II. COLLABORATION IN ACTION: DEVELOPMENT OF THE GEAP

2.1. Development of the GEAP

The GEAP was developed over an eight-month period between September 2012 and April 2013. The process was led by an inter-ministerial Steering Group (SG) established under the GER and comprising MICOA, MPD, Ministry of Finance, Ministry of Foreign Affairs and Cooperation, and CONDES, with the technical and financial support of the Bank, and in collaboration with the **WWF**, the United Nations Development Program (**UNDP**) and the United Nations Environmental Program (**UNEP**). A GEAP Coordination Group (GCG), led by MICOA's Directorate of Cooperation and supported by two AfDB-funded consultants (one international, one local), was in charge of the field work. The Steering Group also sought the participation of other governmental stakeholders implicated in the specific pillars of the GER, including the Ministries of State Administration, Agriculture, Energy, Mineral Resources and Transportation & Communications.

An essential element to green growth development planning is ensuring both the ownership by the national authorities, and the participation and buy-in from all stakeholders, including civil society, academia, and the private sector. Understanding regional perspectives is also critical given the asymmetries in economic activity and resource endowments across the territory. The GEAP was a result of a participatory process, a national official document, led and managed by the national authorities, to which the Bank provided technical advisory.

The process started with a first draft prepared by the GCG, followed by the technical training of members of the Steering Group in November 2012. The following aspects were considered: (i) dissemination of technical knowledge on the basic principles of the GE, (ii) demonstration of approaches to integrate GE into national planning, and (iii) strengthening the Steering Group's capacity in the development and implementation of the GEAP. Following the first draft review by the Steering Group, the GCG led regional consultations in the north, centre and south of the country with representatives from public administration, civil society, academia, and the private sector. The document was revised to reflect the regional views shared during these consultations. It was then presented at the MICOA Technical and Advisory Councils and to the Advisory Boards of each Ministry represented in the Steering Group. The document was also shared with key non-governmental stakeholders, including from the private sector and civil society. Finally, presentations were also made to the wider development partner community in Mozambique. A final draft of the document was presented in a road show to all line ministries to ensure strong ownership. Considerable additional feedback was received and integrated, before delivery and final approval of the document by the Council of Ministers in September 2013.

2.2. GEAP Objectives

As a result of the multi-stakeholder process, the GoM established the following objective for the GEAP:

The Green Economy Action Plan (GEAP) has the overall objective to guide the mainstreaming of policies, practices and environmentally sustainable actions to make Mozambique an "inclusive middle-income country, based on the protection, restoration and rational use of natural resources and ecosystems, ensuring efficient and inclusive development within the planetary boundaries".

It further established as specific objectives to:

- a) Establish the foundation of a green economy and include a green growth agenda in national development priorities;
- b) Identify concrete policy actions to advance a GE agenda as they pursue the objectives of poverty reduction;
- c) Integrate the green economy approach into planning and budgeting as well as into national accounts.

Based on these objectives, the GCG team, in consultation with stakeholders, produced a framework of entry points around three major pillars (see as Table 1) for: (a) analysing Mozambique's current development landscape and (b) identifying a "menu" of policy options corresponding to these entry points (see Section 4).

Table 1 - Green Economy Action Plan Framework

PILLAR	SECTOR OR DEVELOPMENT AREA
1. Physical Capital: Sustainable infrastructure	<ul style="list-style-type: none"> (a) Energy (b) Transport (c) Irrigation (d) Water supply and sanitation (e) Cities and settlements
2. Natural Capital: Efficient management of natural resources	<ul style="list-style-type: none"> (a) Land (b) Agriculture (c) Forests (d) Tourism and conservation areas (e) Fisheries (f) Mineral resources
3. Human Capital: Strengthening the human resilience and adaptation capacity	<ul style="list-style-type: none"> (a) Increasing resilience and reducing disaster risk (b) Education and employment (c) Health and population (d) Gender equality and women's empowerment



Mahotas

III.

MAPPING GREEN GROWTH POLICY OPTIONS



III.

MAPPING GREEN GROWTH POLICY OPTIONS





Fishing boats in Maputo, 2015

III. MAPPING GREEN GROWTH POLICY OPTIONS

In this chapter we review the different green growth pillars, each respective key issues, and suggest a set of priority policy options. The extraordinary scope and cross-sector nature of a green transformation and its implications, renders it virtually impossible for Mozambique to implement all of the green growth policy options. The choice of policies undertaken by the GEAP exercise was prioritized according to their relevance for the green growth agenda, feasibility, alignment with national strategies and programs, and applicability within the GEAP time frame (see Section 4.1).

Pillar 1 – Infrastructure, Energy and Urbanization

3.1.1 Energy

Mozambique has substantial energy resources, from fossil fuels to renewables, but it lacks the ability to exploit these resources fully and ensure equitable and sustainable access for the majority of the population. The rate of access to electricity reached 38% by 2012, primarily funded by Mozambique's Energy Fund (FUNAE). Consequently more than 9 million Mozambicans have permanent access to electricity – 12% of them through solar photo-voltaic (PV) systems. Grid stability and rural electrification are still major constraints, especially for industrial activities and transformation of agricultural produce. Electricity generation capacity is estimated at about 2,600 MW, 90% of which is installed at the Cahora Bassa Hydro Power dam. Mozambique exports most of its generated electricity (about 9.5 million MWh in 2012) to South Africa and Zimbabwe.

Green Growth Policy Options 1 - Energy

- Integrated development of hydropower resources with river basin stakeholders: Adopting an integrated watershed management approach linking with other sectors such as water, forests, agriculture and fisheries
- Create tax exemption incentives for sustainable forest plantations of biomass fuel supply
- Establish point of sale taxation on charcoal in urban areas
- Setup tax exemption incentives for improved biomass stoves, solar thermal water heating and other clean technologies
- Scale up renewable energy investments through feed-in-tariff (REFITs) policy
- Establish public procurement practices prioritising renewable energy technologies
- Promote renewable energy technology, kick-starting it in Special Economic Zones
- Develop financing mechanisms for small and medium sized enterprises (SMEs) operating in the energy access space
- Provide interest rate subsidies to loans for energy access businesses and decentralised energy projects
- Create energy efficiency programmes for household appliances, vehicles and buildings

The GEAP concluded that GE energy policy should be coordinated with forestry, agriculture, transport, urban development, and water resources agendas, with the Ministry of Energy playing a key role. GE energy policy should mainly incentivize investments in renewable energy generation, in particular in small grid-connected as well as mini-grids, with the view to increasing access to sustainable energy services to peri-urban and rural populations (harnessing the country's vast potential in hydro, solar, wind and biomass). In the clean cooking space, the adoption of fuel efficient biomass stoves, bioethanol and LPG gas cookstoves should be actively promoted in urban and peri-urban markets to replace charcoal and fuel wood.

3.1.2 Water, Water Supply & Sanitation

Mozambique has considerable water resources but its people still have limited access to them. The country's total national water runoff is 216.5 km³ (MICOA 2007). Over 50% of this (116.2 km³) is from nine shared watersheds in the Southern African Development Community (SADC) region. Joint national and regional management with all stakeholders in the watershed is therefore vital to manage the flow.

Between 1997 and 2009, access to safe drinking water increased from 40.3% to 54% in rural areas, and 30% to 60% in urban areas (Government of Mozambique, 2010a). In the same period, access to improved sanitation increased from 25.3% to 40% in rural areas and from 38% to 50% in urban areas (Government of Mozambique, 2010a). However, in both cases, the rate of increased coverage has slowed in recent years.

Green Growth Policy Options 2 - **Water management, Water Supply and Sanitation**

- Integrated management of irrigation, water supply and sanitation with stakeholders at the watershed and in coastal zones
- Strengthen River Basin Authorities and community participation
- Promote integrated water resources management (IWRM) and linkages with agriculture, forestry, energy, cities, mining and fisheries; adoption of a watershed management approach
- Foster the establishment of infrastructure to capture and store water, including for flood and drought prevention
- Establish public-private partnerships (PPP) to increase access water supply and sanitation
- Develop the capacity of local authorities to recycle and reuse water
- Reduce water losses, particularly in urban areas
- Create incentives through a cost-recovering tariff model to reduce "unaccounted for water" (UFW)
- Strengthen water research networking, by enhancing linkages between national policies and Watershed Committees
- Establish soil and water conservation "buffer zones" that safeguard sloping areas in the watershed

Overall, the water supply is unreliable during the dry season and in rural areas; distribution networks are deficient and a large proportion of water points do not operate. Mozambique's water supply system loses 40% of its water to leakage (CRA, 2011). Increases in population, urbanization, and in extractive and agricultural activities have created additional water stress by increasing demand for and pollution of existing water supplies. Water stress has been further exacerbated by increases in temperature and erratic rainfall.

Mozambique has a huge potential to increase agricultural productivity through irrigation, particularly in the basins of the Limpopo River (south), Zambezi (centre) and Lurio (northern). Increased productivity could be used to supply domestic markets and export markets in Asia, the Middle East and Europe. Lack of access to electricity and transport infrastructure that connects to markets has prevented the development of irrigation projects. The planned modernization of the Massingir dam (Bank funded) and infrastructure associated with irrigation in Limpopo will soon augment the total nationally irrigated area. These projects can mitigate the increasing risk of drought induced by climate change. Nevertheless, irrigation systems must be designed to withstand the expected increase in the frequency and intensity of floods.

3.1.3 Transport

The transport sector, particularly the road subsector, has experienced remarkable growth in the last decade. Since the early 1990s the percentage of roads in good or fair condition increased from 30% to 83% in 2007 (World Bank 2013). For this improvement to generate socio-economic development, transport will still need to connect production and agriculture areas with markets and ports, and provide for social and spatial inclusion. In 2008 total road network density was 37 km/1,000 km² of land area, very low when compared to the average of 132 km/1,000 km² in low-income countries. Furthermore, transport infrastructure is particularly vulnerable to climatic events such as floods, cyclones and sea level rise and this is particularly obvious in Mozambique given the high exposure of the country to these risks.

Transport is also one of the contributors to greenhouse gas emissions, although to a lesser extent than other sectors. Mozambique's natural gas reserves can be part of the solution if promoted as an alternative fuel to diesel and gasoline. Mozambique can also promote other greener modes of transport, such as mass-transit systems, particularly in the capital city Maputo where population density and commuting flows from suburbs to city centre is highest.

GE transport policy should be led by the Ministry of Transport and Communications (MTC) and coordinated with planning for public works, agriculture, energy, urbanization and mining. GE transport policy should incentivize private sector investment in affordable transport services running on gas and electricity as well as toll roads linking major markets with agricultural production areas.

Green Growth Policy Options 3 - Transport

- Establish PPPs to expand gas-powered public and private vehicle support infrastructure
- Introduce PPP toll roads to connect major markets and agricultural production zones
- Conduct feasibility study for north-south maritime feeder transport and east-west river transport for cargo
- Set up congestion-reducing programs in cities to create incentives for public transport investment
- Create tax exemption incentives for gas-powered and coal to liquids transport technologies
- Road tax reduction incentives for compliance with vehicle maintenance and safety inspections
- Adopt climate resilient transport infrastructure design standards for public works
- Develop transport master plans to mainstream greener modes of transport
- Promote gas and electric transport technology, kick-starting it in Special Economic Zones
- Introduce climate resilience duties on international freight to finance port, rail and road resilience costs

3.1.4 Cities and Settlements

The 2007 Population Census estimated that 36% of the country's population is urban, and projected that 60% of the population (or 17 million people) will live in urban areas by 2030. The fastest growing urban centres are Maputo and Matola in the south; Tete, Chimoio and Beira in the centre; and Nampula, Nacala and Pemba in the north. The capital, Maputo, is the largest metropolitan area, with a population of between 2.0 million and 2.3 million people. It also has the largest concentration of people vulnerable to climate change (MICOA, 2009). Most of them live in settlements with suboptimal infrastructure and lack of basic public services.

Most of the major cities of Mozambique lie on the coast and are at highly exposed to flood and erosion, salinity intrusion and cyclones. As the future demographic and economic growth hubs, coastal cities must promote climate resilience now – particularly with respect to natural disasters – to avoid higher physical, economic and human costs later. Climate adaptation will also inevitably necessitate migration out of coastal areas and slower urbanization rates. Investments in urban planning and services should be performed now to avoid the “lock-in” into carbon-intensive urban development, and to ensure adequate and integrated public services.

Sustainable urbanization can lead to a better quality of life, enhanced economic opportunities – particularly for young people, which make up 43% of the population (INE, 2012) concentrating in urban centers – and the increased efficiency of public services. Urban areas are rife with green economy opportunities: low-carbon technologies for public transport; decentralized electricity generation and supply to urban buildings; sustainable practices and building materials; and solid waste recycling programs.

Mozambique is home to a “best practice” in urban climate adaptation on the continent: a collaboration between the Cities Alliance⁴, the National Association of Municipalities of Mozambique (ANMM) and UNHABITAT has sought to improve the energy efficiency and sustainability of urban building codes, and to reform urban public policy through the Pilot Program for Climatic Resilience and Adaptation Program for Coastal Cities.

Green Growth Policy Options 4 - Cities and Settlements

- Integrated management of urban areas with other river basin stakeholders
- Mainstream climate resilience into urban planning and building regulations
- Introduce tax incentives for the development of affordable housing in low flood prone areas
- Plan new urban centres to reduce the expansion of high risk coastal cities
- Standardise city planning for minimum density levels
- Standardise city planning for mass-transit systems and develop the capacity of urban transport systems, including infrastructure for non-motorized users such as bicycle lanes and walk ways
- Standardise city planning of minimum green space ratios for drainage and micro-climate
- Legislate energy performance standards for urban buildings
- Provide subsidies for on-site solar thermal water heating (STWH) in urban buildings
- Establish PPPs for municipal recycling and human waste to biogas production facilities
- Establish PPPs for municipal waste water and storm water drainage maintenance
- Establish PPPs to expand public transport services and infrastructure
- Integrate waste, water, sanitation and biogas energy into urban planning
- Promote conservation agriculture in and around cities that responds to urban demand – reducing transport costs/emissions.

⁴ For more information visit <http://www.citiesalliance.org/>

Pillar 2 – Natural Capital

3.2.1 Land

Despite the relative abundance of land resources, land usage is being pressured by large-scale foreign investments in agriculture, forestry and mining operations, tourism, urban expansion, infrastructure construction, and increased levels of climate change impact. This is of particular concern for communities dependent upon agricultural activity: 80% of Mozambique's population (primarily rural Mozambicans) depends directly on natural resources for their subsistence (MICOA, 2007). Land is one of the most valuable assets of rural communities in Mozambique, and is the basis of sustainable rural development.

Achieving a balance between the interests of local communities and the commercial development of large-scale farms, requires local communities to possess a strong land tenure system, knowledge of their rights and the ability to negotiate collectively. Moreover, the GoM should use landscape planning and integrated land use management as policy tools to optimize productivity and minimize trade-offs between different land use options. Recognizing the importance of land rights for rural communities, the GoM has partnered with the civil society and academia to implement the Initiative for Community Land (iTC). The iTC helps rural communities secure land tenure rights to promote long-term investment into agriculture (such as irrigation development).

The policy instruments for GE on land should be implemented through an integrated sector approach, but in particular with water, agriculture, forests, fisheries and mining, together with measures of resilience and adaptive capacity in the context of climate change. The Ministry of Agriculture (MINAG) is required to play a leading role in coordination with other ministries, in particular the Ministry of Justice – responsible for land registration - civil society and communities.

Green Growth Policy Options 5 - Land

- Identify priority Districts where pressure on land is high and establish community land tenure registration
- Integrate community education on land use rights within agricultural extension services
- Establish community access to legal support services for equitable negotiation with investors
- Develop land green growth safeguards and implementation mechanisms for FDI large projects
- Build community capacity and fora for integrated land management
- Adopt a watershed approach to land use planning and management

3.2.2 Agriculture

Mozambique has a huge untapped agricultural potential: About 46% of its land is arable, but only 10% is currently in production and 3% is irrigated (MICOA, 2012). Productivity is still very low due to limited access to markets, poor infrastructure, post-harvest losses and the insufficient availability of credit and insurance (ADB, 2011).

Smallholders conducting low-yield, rain-fed agriculture dominate the sector. In 2011, smallholder agriculture employed 80% of the workforce and constituted approximately 23% of GDP (INE, 2012). Maize, sorghum, cassava, groundnuts and beans dominate production, and the main cash crops include sugar cane, cashew nuts, cotton, tobacco, tea and coconut (INE, 2012). Agriculture is crucial for food security and employment, but the sector is threatened by climate change. Vulnerability to climate change is particularly acute among small producers.

To boost productivity and ensure sustainable use of natural resources, the Government approved the National Strategy for Irrigation 2011-2019 and the Agricultural Sector Development Strategy 2010-2019 (PEDSA), anchored in the strategy for a Green Revolution 2008-2012 and the Comprehensive Africa Agricultural Development Program (FARA). PEDSA identified conservation agriculture and rainwater harvesting as important for ensuring the sustainable use of resources and resilience to climate change (MINAG, 2010). Furthermore, the Strategy and Action Plan for Food Security and Nutrition 2008-2015 – recognizing the interdependence of food security and nutrition – indicates that food crop producers are important agents in the implementation of the strategy.

Mozambique's National Plan for Agricultural Sector Investment 2013-2017 (PNISA) aims to transform the predominant small scale agriculture into commercial farming by focusing on five areas: increasing production and productivity; market access; food security and nutrition; institutional reforms; and natural resource management. The GoM also seeks to create a policy framework that protects watersheds, soil fertility and pollination. This will require an integration of agriculture, forestry and water sector policy making.

Mozambique is currently home to several model agricultural development tools, including links between microfinance and small business commercial producers through catalytic funds. A pioneer case is a weather index micro-insurance program involving Mozambican financial and agricultural institutions in the Beira Agricultural Growth Corridor (BAGC) initiative, protecting small farmers in the Manica province against extreme drought conditions.

Green Growth Policy Options 6 - Agriculture

- Integrate agriculture management with other river basin stakeholders, including adopting a landscape approach to linking water, forests and fisheries
- Establish PPPs for toll roads connecting major markets with agricultural production zones
- Expand payment for ecosystem service programs for forested watershed services
- Scale up conservation farming and rain-water harvesting
- Scale up drought-resistant crop variety research and seed-distribution mechanisms
- Replicate AgDevCo agricultural development company models targeting smallholders
- Accelerate research and development of weather index-based micro-insurance programs

3.2.3 Forests

Forests cover about 40 million hectares in Mozambique - half of the country. More than half are classified as production forests (MINAG, 2007). Mozambique also possess 350,000 ha of mangrove forests (MINAG, 2007) which absorb atmospheric CO₂, serve as a nursery for juvenile fish and other animals, improve water quality and protect against coastal erosion and storms. Forests are central to Mozambican livelihoods as well. They produce fuel and non-timber products, and provide essential ecosystem services, controlling watershed runoff and sedimentation. For commercial exploitation of forest products, the Regulation of Forestry and Wildlife establishes two forms of access: through 'forest concessions' for large operations, assigned to individuals or companies (both national and foreign) for periods up to 50 years; and through a simplified 'single license' to nationals for up to 5 years. Logging was at approximately 388.000m³ in 2011 (INE, 2012), less than the annual allowable cut of about 500.000m³. Communities have free access to forest resources for their own consumption and are entitled to receive 20% of the logging fees.

The GoM's capacity to enforce forestry regulations does not match the enormity of the task. Logging fees are not proportional to the value of timber, and policies do not economically value forest land for non-timber goods and ecosystem services from standing forests. A single license for "precious timber" such as blackwood (*Dalbergia melanoxylon*) costs the equivalent of USD 980 for up to 500m³ of wood per year, but operators can attain a sell price of up to USD 1200 (Nhancale et al., 2009).

Green Growth Policy Options 7 – Forests

- Integrate forest management with river basin stakeholders, adopting a landscape approach to forest management that links water, agriculture and fisheries
- Zone areas to remain under natural forest cover so as to preserve critical watershed services
Strengthen local community forest tenure and clarify ecosystem services compensation regimes
- Integrate reforestation costs and ecosystem services into forest extraction fees
- Institute forest payment for ecosystem service programs for hydroelectric, water-supply, soil fertility, erosion protection, biodiversity and carbon services
- Promote longer-term and multiple-use forest concessions, phasing out simple licensing
- Adopt reduced impact logging (RIL) for forest management
- Establish Forest Stewardship Council (FSC) certification for all commercial forestry activities
- Expand sustainable forest plantations for biomass fuel supply
- Introduce point of sale taxation on charcoal

Deforestation rates are variable, with the highest in the Nampula province at 1.16% per year (MINAG, 2007). However, the pressure to convert forests for other uses is increasing due to shifting cultivation and cash cropping, unsustainable production of charcoal and illegal logging. Unsustainable logging for charcoal production is accelerated by the absence of a sale tax on the product. This causes a loss of state revenue and creates a price barrier for firms in the formal sector to compete in the household firewood market. Insufficient institutional capacity limits the transfer to communities of their right to 20% of payments for logging fees.

The removal of the 'single license' in exchange for a longer-term "concessions multipurpose license" could be supported by: strengthening the land tenure of local communities; increased law enforcement in natural forests operations; and a watershed land use planning approach to forest planting to balance trade-offs between timber production, biodiversity and soil and water conservation

Apart from natural forest resources, about 7 million hectares of land are suitable for forest plantations (Savcor, 2005). Only about 67,000 ha are currently operational (FAO, 2010). Forestry plantations are not yet established on an industrial scale in Mozambique, although large investment plans are starting in Nampula, Zambezia and Manica. The production potential of plantations is estimated at about 150 m³/ha (FAO, 2010).

The draft Regulation for Approval of REDD + Projects, which MICOA and MINAG are preparing, is a promising basis for the inclusive community management of and participation in revenue from payments for forest ecosystem services. The certification by the Forest Stewardship Council (FSC) was attributed to two forest operations in Mozambique; two additional companies are in the process of certification.



3.2.4 Fisheries

Fisheries along the Mozambique's 27,000 kilometers of coastline are critical for food security and income for the large coastal population. The industry accounted for about 2% of GDP in 2009-2011 (INE, 2012b) and employs approximately 350,000 artisanal fishermen (PIREP, 2010), including industrial and semi-industrial operators. The total catch in 2009-2011 ranged between 23,474 and 28,363 tons for industrial and semi-industrial operators, and between 129,265 and 166,428 tons for artisanal fishing (INE, 2012a). The most important commercial species include crustaceans (mostly shrimp) and tuna. Mozambique is party to regional and international protocols for monitoring, maritime control and surveillance (MCS) (e.g. UNCLOS and the SADC Protocol on Fisheries), and is a member of the Indian Ocean Tuna Commission (IOTC) and the Commission of the Southwest Fisheries Indian Ocean (SWIOFC).

Increased productivity and sustainable revenue from fisheries require investments in infrastructure, processing facilities and the implementation of sustainable management policies and practices. At the national level, Mozambique adopted a policy and strategy for monitoring, control and surveillance, as well as a plan against illegal, unreported and unregulated fishing.

The shallow waters of the country are under heavy pressure from fishing; continued exploitation by the artisanal sector lead to overfishing, which is aggravated by harmful fishing practices such as the use of mosquito nets. The Institute for the Development of Small Scale Fisheries (IDPPE) is developing capacities for fishing further offshore and improved sustainable fishing practices. Legislation allows for the creation of fishery associations and community co-management of artisanal fisheries. However, to result in successful resource management, this legislation needs to be accompanied by improved knowledge management and organizational skills on the part of the associations.

As part of the GEAP, the GoM intends to explore a rights-based approach to fisheries, including through granting ownership of the sustainable management of fishery resources to local communities. The newly established Marine Protected Area of the Primeiras and Segundas Islands along the coast of Zambezia and Nampula is a promising model for sustainable fisheries management. The Marine Protected Areas are recognized by FAO (2012) as a tool for an ecosystem approach to fisheries, to increase the abundance and size of fish.

The GEAP also acknowledges that aquaculture can contribute to food security, job creation and climate resilience through the protection of coastal areas and mangroves. Mozambique has the potential for more than 250,000 ha of freshwater aquaculture and 30,000 ha of marine aquaculture; only 5% of this capacity is currently utilized (INAQUA, 2007). Realizing this opportunity requires improvements in feed, access to credit, the technical capacity of aquaculture operators and the growing of juvenile fish (fingerlings). It also requires in-depth studies on the effects of aquaculture on broader ecosystem functionality as well as improved environmental monitoring to keep salinization under control and to avoid genetic threats and the degradation of water quality. Aquaculture is also vulnerable to the adverse effects of climate and diseases: the outbreak of white spot syndrome in 2011 almost eradicated the production of marine shrimp aquaculture in Mozambique (FAO, 2012).

Green Growth Policy Options 8 - Fisheries

- Adopt a Rights Based Approach (RBA) to the management of fisheries
- Establish an ecosystems approach to fisheries (EAF) integrating ecological, social, and economic sustainability and resilience
- Issue payments for ecosystem services for fishery nurseries;
- Increase capacity of decentralized co-management, monitoring and enforcement
- Establish Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) certification for semi-industrial and industrial activities;
- Institute low environmental impact forms of aquaculture (algae & primary consumer fish)
- Adopt a landscape approach to coastal management (river Basin Committees, cities, extractives and tourism)
- Promote regional cooperation for highly migratory and straddling fish stocks
- Expand community-processing facilities to improve local value added

Green Growth Policy Options 9 - Mineral Resources

- Institute integrated planning and management linking with water, energy, agriculture and transport
- Apply Strategic Environmental Assessment (SEA) for the extractive industry
- Adopt an improved Extractive Industries Transparency Initiative (EITI) Standard – locally relevant, understandable and disaggregated
- Adopt International Finance Corporation (IFC) Performance Standard 6 (PS6) for all large scale operations
- Create tax incentives for the artisanal mining sector to participate in environmental, health and safety programs
- Apply climate-resilient industry infrastructure standards and practices
- Set up human capital development programs (vocational training, universities, research)
- Conduct capacity building for public sector and civil society organizations (CSOs) to ensure fiscal and regulatory compliance
- Adopt full-cost accounting to capture social and environmental externalities
- Strengthen contract negotiation, revenue collection and management (local & national)
- Establish a Sovereign Wealth Fund with public participation in design of domestic investment plans

3.2.5 Mineral Resources

Mozambique has recently discovered extensive natural gas reserves in the Rovuma Basin. Confirmed reserves of natural gas exceed 130 trillion cubic feet (Tcf) and more than 150 Tcf of additional reserves could be further confirmed (MIREM/ICF, 2012). Although the Rovuma Basin has yet to be developed, natural gas reserves in the Inhambanea province already provide for domestic vehicle consumption (natural gas vehicles) and, at the thermal power plant in Ressano Garcia, gas for export to South Africa. Mozambique's coal reserves are among the largest in the world. The country produced 5.93 million tons of coal in 2012, and is expected to produce 110 million tons by 2027, assuming the expansion of infrastructure to meet demand (MIREM).

Mozambique also possesses other substantial non-renewable resources such as heavy mineral sands (titanium ilmenite, rutile and zircon), precious and semi-precious stones, gold, uranium, tantalite, bauxite and limestone, among others. The mining of gold and gems in particular is still dominated by artisanal mines operating only in central Mozambique and employing approximately 20,000 people. These pose the greatest risks to environmental and social standards (MICOA). Only 30% of the artisanal miners belong to legal associations (Dondeyne et al., 2009).

Extractive industries presently account for only 1% of GDP (INE, 2012), but estimates indicate that revenues from coal may reach USD 2 billion per year and gas over USD 5 billion per year in 2026 (MIREM /ICF, 2012). This would be equivalent to about two-thirds of the country's 2011 GDP.

Perhaps the greatest green growth challenge for Mozambique is planning the sustainable climate-compatible development of the sector. As an important first step, MIREM (2012) commissioned a Strategic Environmental and Social Assessment for the mining and hydrocarbons sectors. The study should help integrate considerations of environmental and social policies, plans and programs.

The GEAP concluded that Mozambique's natural gas reserves can feed the country's industrialization and assist in the transition to a GE model. Natural gas is a cleaner (low-carbon) alternative to coal. It can also be sold "retail" to households and small businesses (as is being done in the cities of Matola and Marracuene), paving the way for low carbon industries and jobs downstream.

The GEAP also concluded that extractive industry revenues in Mozambique can potentially contribute to sustainable economic growth provided that they are handled transparently and equitably. The Petroleum Act (No. 3/2001) returns a portion of hydrocarbon revenues to local communities and requires environmental protection in accordance with international standards. Mozambique also achieved compliance with the Extractive Industries Transparency Initiative (EITI) in October 2012. Artisanal and small-scale mining also creates employment, but it still needs formalization and environmental, health and safety regulations.

The increasing development of extractive mining of hydrocarbons and coal will also require environmental and social safeguards to minimize risks to the natural and human environment. The GEAP endorses the IFC's performance standards (IFC, 2012) as appropriate (albeit voluntary) for the industry. It also acknowledges the importance of developing the capacity of civil society organizations (CSOs) to interpret and monitor compliance with safeguards and laws.

3.2.6 Tourism and Conservation Areas

The GoM regards tourism as a priority sector for poverty reduction (GoM 2010b, MITUR, 2004), and recognizes nature as the foundation of the country's tourism potential (MICOA, 2012). Thus nature conservation areas are crucial attractions, covering more than 2 million hectares of the country (MICOA, 2012). Tourism's link to both poverty reduction and conservation make it especially appealing as a means for green growth, although skilled labour and infrastructure improvement are required if this potential is to be realised.

Cutting edge tourism approaches, such as Transfrontier Conservation Areas (Mozambique participates in three of these with South Africa, Zambia and Tanzania), partnerships between the private sector and local communities (e.g. Tchuma Tchato Ecosafari and Nkwichi Lodge), and integrated regional tourism development (e.g. Arco Norte Tourism Program and the Tourism Anchor Project) demonstrate that tourism development can be inclusive, environmentally sound and profitable.

The newly created Biodiversity Conservation Fund (BIOFUND) is aimed at financing conservation and sustainable natural resource management activities that are necessary to support tourism. Equally important, the industry should adopt sustainable management practices to ensure that tourism does not degrade the underlying natural capital assets on which the industry relies. Because local communities also rely on these resources, it is needed to create consultation forums and empower communities so that they can participate effectively in the decision making process.

Furthermore, strong dialogue between the extractive mining and tourism sectors will be necessary to ensure that the short-term gains of extractive activities do not undermine the growth of tourism and the corresponding conservation efforts. In this context, the Strategic Environmental Assessment that MICOA implemented in 2012 for all coastal districts is an excellent resource as it informs alternative development scenarios and identifies areas that should be prioritized for tourism and further environmental protection.

Green Growth Policy Options 10 - Tourism and Conservation Areas

- Zone high value tourism areas to manage risks from the extractive industry
- Replicate private sector and local community partnerships for tourism
- Prioritise capital investment in the BioFund for the sustainable financing of conservation areas
- Build strong tourism consultation processes and the capacity of communities to participate in them
- Strengthen natural resource tenure and define revenue distribution mechanisms for payments from ecosystem services

Pillar 3 – Human, Physical and Ecological Resilience

3.3.1 Reducing Risks

Without the adoption of climate change adaptation measures, infrastructure for transport, energy, water supply, coastal settlements and ports, are particularly vulnerable. A 2010 World Bank study on the economics of climate change adaptation has estimated that, by 2040, Mozambique could lose 4,850 km² of its land and 2-12% of its roads and bridges due to the effects climate change. Agricultural yields may be reduced by 2-4%, which, combined with the effects of damage to rural roads, would result in a loss of 4.5-9.8% of GDP.

The provinces of Maputo, Sofala, Zambezia and Nampula are at greater risk due to their topography and population density (World Bank, 2010). Saltwater intrusion due to sea level increases may affect the availability of freshwater and ecological conditions in estuaries such as the Zambezi, Save and Limpopo. Wildfires destroy 11-18% of total forests annually which, coupled with deforestation due to charcoal production, illegal logging and deforestation for agricultural purposes; this increases flood risk and greenhouse gas emissions (INGC 2009). The availability of climatic data is currently insufficient to allow for proper capacity planning and adaptation to climate shocks.

Mozambique is also economically vulnerable to exogenous shocks. The current reliance on a few relevant export products – potentially increasing as the extractive sector develops – leaves the country increasingly exposed to international commodity price fluctuations. Without economic diversification and appropriate resilience measures, the economy is highly exposed to external economic shocks. The expected growth of export earnings from gas and coal and its eventual dominance in the GDP highlight the need for stabilization mechanisms. These will address volatile price dynamics in the international commodities market, which are outside the control of Mozambique.

Investments in climate resilience measures and to minimize disruptions due to weather and economic shocks can safeguard human welfare, economic diversification and prosperity, and indirectly preserve the tax base. In turn this reduces the need for emergency spending and limits borrowing needs, levelling the balance of trade and strengthening investor confidence. These factors combined can reduce pressures on the exchange rate, mitigating inflationary pressures in face of external shocks. Given the scale of the challenges and the still low capacity of public institutions, the private sector can play a key role in resilience and adaptation efforts. The GEAP envisions better coordination between the private sector and public institutions allowing for enhanced economic diversification and strengthen of labour markets.

At several levels, plans were setup to address potential risks and enhance the resilience of natural and physical capital: the National Water Policy (PNA) and the National Strategy for Water Resources Management (ENGRH); the Strategy for New and Renewable Energy Electrification (EDENR), which identifies renewable energy feed-in tariffs (REFIT) to encourage private sector investment in power generation through wind, solar, and biomass residues; the introduction of the Strategic Plan for Urban Poverty Reduction (PERPU) and the National Strategy for Basic Social Security (ENSSB) that sets the blue print for a social protection system; and the Strategic Plan for the Development of the Agricultural Sector (PEDSA), whose priorities include the enhancement of early warning systems and disaster risk mapping,

the promotion of conservation agriculture, and research and expansion of drought-tolerant agriculture varieties to prepare the sector for the impacts of climate change.

The cross-cutting nature of such risks implies that disaster risk reduction should be implemented in close coordination with all sectors, but in particular with water, agriculture, land, forests, fisheries, infrastructure and physical planning. The MPD must lead the coordination of GE policies that reduce the risk of climate disasters, supported by MICOA and the National Calamity Management Institute (INGC).

Green Growth Policy Options 11 - Reducing Risks

- Design and implement climate resilience standards for physical infrastructure
- Zone land use for climate resilience to ensure a lower risk of urban sprawl
- Establish climate resilience standards for urban planning to ensure drainage and prevent flooding
- Prioritize climate resilience considerations in the Strategic Environmental and Social Assessment (SESA) process and decision making
- Integrate management of mangrove forests and watersheds for flood protection
- Reduce wildfires through better definition of land ownership and payment for environmental services
- Set up efficient hydro-meteorological and early warning systems
- Establish greenhouse gas emission standards for vehicles and sector targets for emissions reduction
- Establish standards for in situ renewable energy for buildings and decentralize the energy mix
- Expand social protection systems, microfinance and insurance
- Set up a Sovereign Wealth Fund (SWF) to fund projects enhancing climate resilience and to mitigate economic external shocks

3.3.2 Education

In Mozambique, due to the high level of fertility and the continuous decrease in mortality, school-age population growth outpaces the country's ability to expand educational services. In addition, the country still suffers the effects of public service neglect due to the long-lasting civil war. The education sector currently absorbs 25% of the state budget, yet the adult literacy rate is 50.4% (INE, 2012a). Remarkable progress has been made in expanding access to education, but the quality of teaching and the correspondence between new labour markets and the contents of the education system needs to be improved.

The policy instruments for education in a GE are relevant to all sectors, since quality education will help Mozambique to develop the capacity to achieve its green growth objectives. Staff at all levels – decision-making officials, senior civil servants, skilled workers, etc. – should be trained in the context of the GE. The Ministry of Education should thus tailor the curriculum framework to create a sustainable development culture at all levels, and in harmony with employers across sectors. Education can help develop a GE by raising the environmental consciousness of society, contributing to a culture of sustainable resource use and by instilling respect for environmental laws, goods and services.

Green Growth Policy Options 12 - Education

- Design teaching programs aimed at developing a culture of sustainability
- Create a set of education programs, from basic to technical and higher education, aimed at development priorities
- Design continuing education programs for the training of professionals (especially teachers and public officials) to align with green growth
- Make exemplary investments in education infrastructure, including in the means of operation, in line with the green economy
- Promote policies to encourage innovation and adoption of clean technologies and models of inclusive social development
- Establish policies to encourage technological incubators as a source of employment and a liaison between industry and education

3.3.3 Employment

High population growth increases the size of the workforce, outpacing the country's ability to create investment to absorb the demand for employment. In Mozambique there is one dependent person (i.e. under 15 years old or over 65 years old) for every person of working-age (15-64 years); the sub-Saharan African average is 8 dependents for every 10 working-age adults (UN, 2010).

From 1997 to 2007, the share of the working age population fell slightly from 52.3% to 51.3%, but in absolute terms, it increased from 8.4 million to 10.6 million. Based on 2007 data, the INE forecasts (2010) that the working age population will more than double by 2040, ranging from 23.4 million to 27.9 million. According to the last two censuses (1997 and 2007), the percentage of the working age population that exerted some economic activity is high, about 70%. However, only 15% of the working age population is formally employed. Additionally 80% of the working population works on the informal sector, most earning barely enough to meet basic needs (Arnaldo and Muanamoha, 2011).

Urbanization trends also affect employment and economic development. Current urban population growth is due mostly to rural-urban migration, where migrants aspire to better living conditions and employment opportunities. Despite high unemployment, the structure of the Mozambican economy is shifting from agriculture to the informal sector in urban and peri-urban areas (World Bank, 2009). However, the findings of a study on municipal development in Mozambique (World Bank, 2009) show a slower reduction in poverty in urban areas than in rural areas and that access to and the quality of urban services is poor.

Equity, resilience and adaptive capacity are higher where more people are employed in exchange for wages and money. Green growth will bring green jobs to the realm of decision-making and ensure that development decisions that create new jobs are based on sectors that are sustainable and, as much as possible, resilient to climate change and economic shocks. A Sovereign Wealth Fund should be created to serve as a financial buffer to economic shocks. The fund must also finance investment in human resilience, such as crop insurance systems for smallholders, expanded health services and social protection mechanisms for the most vulnerable. Policy instruments for expanding employment in the GE must be implemented in close coordination with urban planning, sanitation, water, agriculture, land, forests, fisheries, education, health, social protection, infrastructure and physical planning. The Ministry of Labour (MITRAB) should lead the GE policies related to decent employment in close liaison with local authorities and the private sector.

Green Growth Policy Options 13 - Employment

- Establish national targets for the labor market and vocational training
- Develop actions, projects, programs and policies to access urban public services that affect the material conditions of living, particularly in urban areas
- Strengthen the capacity of municipal government to intervene in the economy, including initiatives that contribute to the creation of employment and income, and local economic development
- Undertake a study of green jobs and assess the possibility of establishing a Green Economy Enterprise Agreement between the private sector and government
- Identify and strengthen synergies between urban and rural areas; explore how they can be improved to diversify income
- Develop industry, services, tourism, and other initiatives that promote decent rural employment
- Focus on the cultural and political aspects of municipal governance that impact political participation and the empowerment and promotion of significant citizenship among the poor
- Establish mechanisms for the creation of green jobs in cities including recycling and public infrastructure maintenance
- Identify opportunities to stimulate and link SMEs to provide services to mega-projects
- Promote associations and cooperative movement policies that result in the efficient use of resources and the creation of efficient services

3.3.4 Health and Population

Mozambique has approximately 20,000 people per physician, twice as many people per doctor than in Cape Verde, and about 70 times as many people per doctor than in the European Union as of 2001 (Grosse-Tebbe & Figueras, 2005). Although there is clearly a shortage of doctors, these numbers also represent progress: Mozambique went from 323 doctors in 1980 to 1042 in 2009 representing an average annual growth of 4%. Such growth rate is still inadequate to ensure an adequate level of service to the population; at this rate, and taking into account population growth projections (INE, 2010b), Mozambique may have 15,000 inhabitants per doctor by 2040.

Health services reach only about 50% of the population (MICOA, 2012). The challenges in health – particularly malaria, micronutrient deficiency, and HIV/AIDS – weaken human resilience and adaptive capacity. In 2009, INGC projected that malaria will be even more prevalent with increased flooding caused by climate change as well as expansion of irrigated agriculture. Furthermore, the effects of increased prevalence will be exacerbated by the low coverage of health services. Additionally, poor drainage and sanitation systems increase the level of vector borne diseases such as cholera.

Micronutrient deficiency affects about 89% of children aged 6-23 months, and multiple micronutrient deficiency affects 44% of the population (MISAU, 2010). Mozambique loses an estimated 5% of GDP as a result of deficiencies in micronutrients (MISAU, 2010). The Ministry of Health plans to expand the micronutrient fortification of wheat flour and edible oils processed centrally, therefore developing the resilience of human capital and economic productivity.

Green Growth Policy Options 14 - Health and Population

- Increase health sector training (mainly doctors and nurses) in proportion with population growth
- Intensify the establishment and equipment of resilient health infrastructures
- Improve access to family planning services and information on planning for women of reproductive age
- Improve access to water and sanitation and intensify health education campaigns and preventive measures against waterborne diseases

3.3.5 Gender Parity and Women's Empowerment

The 2007 Gender Development Index (GDI) of Mozambique (0.395) was lower than the average for African countries (0.433) and developing economies generally (0.694) (ADB, 2011). The narrowing of the gender gap is more than an equity issue question but also fundamental ingredient for sustainable development. Women are therefore a key player in the transition to a green economy model. Studies on the role of women in development recognize women's unique importance to the social development, knowledge transmission, security and stability of the family. The majority of Mozambique's population is female and women head a significant proportion of households, making the gender gap all the more striking.

Women are also critical to the management of natural resources, since traditional divisions of labour often rely on them for certain natural resource uses. Empowering women can be instrumental in the implementation of green economy initiatives in different sectors. The policy instruments for generating gender equality and women's empowerment in the GE are particularly aligned with issues of education, focusing on girls' education and health, and family planning. The Ministry of Women and Social Action (MMAS), has a leading role, and should align their actions with other sectors, particularly education and health.

Green Growth Policy Options 15 - Gender and Women's Empowerment

- Support programs for girls' education and their integration into the labor market
- Support programs for family planning and women's empowerment to ensure a base of family stability
- Ensure that an increasing proportion of decision-making positions are occupied by women



IV.

IMPLEMENTATION



IV. IMPLEMENTATION

4.1. Prioritizing Policy Options

The breadth of interventions identified and the cross-sector nature of a green transformation, renders virtually impossible for Mozambique to implement all of the green growth policy options enumerated in Chapter 3. Under MPD leadership, the GoM has identified an ambitious but achievable subset of policy priorities for integration into the ENDE and implementation under the next PQG 2015-2020 (see Annex 3). These policies were first selected on the basis of providing long-term social, environmental and economic returns. The order of implementation is defined by its articulation with the government's 5-year plan. An indicative timeframe is presented on the Integrated Implementation Framework in Annex 3, including a summary of these priorities and how they relate to the three “pillars” of green growth.

However, this is intended as an interactive and dynamic process. Options may be subject to change pending availability of new analytical inputs and political developments. Further prioritization will benefit from (i) a robust cost-benefit analysis (including quantification of environmental and social benefits and costs) to determine value for money of each option (this was beyond the scope of the GEAP exercise, but it is proposed as a follow-up action to be done jointly with UNEP); and (ii) the alignment with the political agenda as well as negotiation within and across ministries, particularly where policies have a multi-sector dimension.

4.2. Coordination and Implementation

Fundamental to successful green growth policy making is identifying the appropriate institutional arrangements for implementation as well as the capacity gaps needed to achieve each policy outcome. In consultation with the AfDB and other development partners, the GoM therefore devised an institutional arrangement and identified capacity building needs within each institution. The five key institutions in this initial phase of transition (2013-2014) are:

- **MPD** (Key coordinator). Planning and integration of the green economy into national Planning and Budgeting System (SPO) procedures; planning and monitoring of the Green Economy Roadmap implementation, now operationalized in this Green Economy Action Plan for the initial 2013-2014 period; MPD would benefit from synergies with their PPCR coordination role.
- **Ministry of Finance (MF)**. National budget for natural capital, allocation of funds for a green economy and design and implementation of policies and fiscal instruments for a green economy;
- **MICOA**. Transformation of the environmental policies for the green economy, monitoring of natural capital and ecosystem services and environmental governance;
- **Ministry of Foreign Affairs and Cooperation (MINEC)**. Liaising with development partners, international organizations and regional and sub-regional organizations such as SADC, the African Union for the Green Economy; coordinate initiatives to link the National Roadmap internationally;

- **National Council for Sustainable Development (CONDES).** Meeting of sector perspectives, ensuring that cross-cutting issues of economy, environment and social equity are addressed in a harmonized manner; consolidate consistency of the sectors nationally and regionally through the broad adoption of GE policies; improving the coordination and integration of national programs and targets for sustainable development;
- **Local communities and local planning management forums** (e.g. Basin Committees and Fisheries Associations) will be further integrated into land use and resource planning as part of Mozambique's decentralisation policy.

While these institutions will play an essential coordinating function, the GEAP will also be carried out by a multiplicity of actors from the public and private sectors, civil society, community based organizations, academia and cooperation partners, among others. A "Multisectoral Platform" is therefore being developed to provide these stakeholders with an inclusive broad forum for discussion. Steered by MICOA, the platform will monitor the GE transitioning process on a regular basis. The monitoring tool will be the Integrated Implementation Framework (see Annex 3) which identifies each objective, desired result, and indicators, and the actions stakeholders are expected to take to achieve its outcome. Each line item is assigned to a specific ministry for coordination and implementation.

4.3. Financing

GEAP's implementation matrix requires immediate funding as well as medium-to-long term national budget planning. Furthermore, private sector resources must be mobilized to move towards a GE, and to make good use of official development aid to catalyse transformation. The advocacy and mobilization of resources will require strong leadership from MPD, with the buy-in from MF. The GEAP established a detailed USD 2,550,000 budget for the first phase of implementation from 2013-2014 (see Annex 2). A shortcoming of the process is that this allocation was not included in the GoM's annual budget and program. As a consequence, the GoM is discussing support from key development partners in addition to mobilizing existing public resources. Further detailed funding requirements are to be developed in tandem with an analysis of GE policy options.

The primordial new financing instrument under the GEAP is a "Green Economy Investment Fund" (GEIF), to be established with revenues from fees on extractive industry activities. The funds will be invested in a diversified portfolio of financial assets (e.g. shares, bonds, real estate). The income deriving from the GEIF portfolio is to be invested in GE activities. The GEAP also notes the importance of aligning national and foreign direct investment with the green economy objectives. The GEAP reflects the GoM's intent that social and environmental issues become increasingly relevant when assessing the risks and performance of the projects funded by DFIs and other financial institutions. The mainstreaming of international standards such as the Equator Principles⁵ and the IFC Socio-Environmental Performance Standards are essential for the GE transformation, and will be reflected the investment criteria assessed by the Centre for Investment Promotion (CPI) project appraisal framework.

⁵ The Equator Principles is a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects more at www.equator-principles.com

4.4. Information Tools

Performance measurement is crucial to the successful implementation of green growth policy, and for steering and producing adequate policy. The GEAP reflects this by undertaking to implement the following measures:

- **Monitoring and Evaluation.** The GEAP plans to establish Development Observatories (DO) as a means to monitor and evaluate implementation of the plan. The DOs complement information from existing M&E mechanisms at national and sector level, which will adjust gradually to meet new challenges and opportunities presented by the GE. MPD will lead the establishment of the DOs, assisted by the INE. Outputs are to be shared with the CONDES Technical Council (CT-CONDES) and the Multisectoral Platform.
- **Measuring performance and indicators framework.** The National Accounts System of Mozambique relies on GDP as its primary measure of progress. However GDP is now broadly recognized as an insufficient measure of development (NEF, 2012). The GEAP therefore calls for a process by which the GoM will select (a) a “panel” of three additional national GE indicators; and (b) targets to measure social, environmental and economic progress more holistically. The MPD will lead this process, supported by the INE, MF, MICOA and MMAS. Stakeholders from local communities, CSOs, academia, private sector, development partners and government will be brought to contribute to this panel.
- **Natural Capital Assessment.** The GEAP plans a rapid natural capital assessment in 2013. The results will be used to develop general objectives for natural resources management and will be integrated into the next QGP 2015-2109 for all provinces in Mozambique. Further in-depth work will be performed on a subset of provinces. They will be selected on the basis of criteria established in the GEAP, which take into account both importance and feasibility. Given the scale of the challenge, a phased approach by province will be used, considering: (1) the needs and interest of local government; (2) the level and scope of the threats of degradation and loss of natural capital; (3) the relative importance of goods and services of natural capital at the local, national and regional levels; (4) the potential synergies with development projects in progress; and (5) effectiveness in terms of cost and availability of resources for implementation.
- **Public Awareness.** The GEAP tasks MICOA with implementing a program to improve public awareness about green growth and natural resource management, including television and radio outreach to local communities. MICOA and the Ministry of Education are to coordinate the gradual integration of these concepts into the education system.
- **Online Green Economy Knowledge Platform.** The GEAP contemplates the development of a public Internet portal, hosted by INE, called the “Green Economy Knowledge Platform”. It will be used to share information and opportunities with entrepreneurs and other civic stakeholders, exchange national and international best practices, and to raise awareness and communicate progress to the public.

- **Strategic Environmental and Social Assessment (SESA).** The GEAP also notes the possibility of using the Strategic Environmental and Social Assessments (SESA) as a tool to assess policy alternatives and structure dialogue. In this process the SESA can also provide information, identify how to improve institutions, and prepare for change, addressing major trends.



Moatize coal basin



V.

**OPPORTUNITIES
FOR AfDB
INTERVENTION**





V. OPPORTUNITIES FOR AfDB INTERVENTION

The following is a summary of potential areas for AfDB involvement in the implementation of the GER and GEAP.

5.1. Analytical Work

Green Growth Policy Scenarios (macroeconomic cost-benefit analysis). Considering the broad suite of policy options of strategic interest identified in the GEAP, there is a need for a quantitative assessment using modelling tools to explore social, economic and environmental benefits and costs of given investments scenarios and policy reforms. This work would also take into account the main elements of the Green Economy Action Plan, including the analysis of GE policy options, a measurement framework and indicators, and the modelling of priority sectors and investments. This support would target MPD and be carried out in collaboration with academic institutions and UNEP.

Green Jobs Assessment. With job creation as one of the three pillars of the PRSP and a pressing priority of government, rolling out a “green jobs” activity could help demonstrate the benefits of the GE and ensure buy-in from national authorities. ILO would be the preferred partner given their experience in the development of a “Green Jobs Programme” in Zambia focus on Micro Small and Medium Enterprises along the construction value chain. The first phase of this assessment would involve an analysis of the opportunities, risks and social protection needs of the target population in the building and construction industry. The second phase would establish the priority action areas, with regards to the pillars of the green jobs approach. Based on the results, a pilot intervention would be defined.

5.2. Technical Assistance

Natural Capital Assessment and National Accounting. Mozambique has a relatively high endowment of natural capital, representing roughly half of its total wealth. While monitoring and accounting for natural capital and ecosystem services is an imperative, there is a clear shortage of capacity, tools and financing to undertake this enormous task. The Bank could support the country in mapping, evaluating and integrating these resources in planning processes in selected pilot geographies (e.g. the Limpopo, Rovuma, Zambezi basins, or the Primeiras and Segundas islands). This would be carried out in close collaboration with WWF and UNEP, and could also involve testing WWF’s pilot tool – InVEST - a suite of software models used to map and value natural goods and services that sustain and fulfil human life. Additionally, the Bank could collaborate with the World Bank on its Wealth Accounting and Valuation of Ecosystem Services (WAVES) tool to mainstream natural resources into national accounts.

Green Economy Secondments and Capacity Development. MPD professionals working on sustainable development are stretched across numerous agendas and may require additional analytical support for mainstreaming GE issues into national development planning documents. The Bank could support a secondment programme of “green growth” experts at MPD to support policy integration into the ENDE, PQG and PES. More generally,

tailored trainings on the GEAP should be provided to political leaders, policy makers and parliamentarians.

5.3. Investment Operations

“Green: Policy-based Lending (“Budget support”). The Bank is one of 19 development partners providing financial support directly to the general budget, with disbursements conditional on the approval of an agreed package of policy reforms. The Bank has committed USD 90 million over the last 3 years in support of public financial management and a business-enabling environment. Considering that many GEAP interventions will take place at the policy level, this instrument provides an excellent lever for influencing “greener” policy choices as well as an entry point to subsequent advisory work. This would also lay the groundwork for a new generation of such operations in other regional member countries.

National Climate Fund (and Climate Finance Readiness). The transition to a GE in Mozambique will require a significant amount of financial support as well as the capacity to access funds that fall outside traditional ODA mechanisms, as is the case with the new Green Climate Fund (GCF). The Bank can play a role in preparing the country for climate finance, namely by supporting the establishment of a National Climate Fund (NCF). The Fund would facilitate the collection, blending, coordination of, and accounting for climate finance. This could form the basis of a country-driven system that can support the programming of climate change activities, oversee project approval and monitor project implementation and performance, as well as financial control of climate change funds. This work can be developed in collaboration with UNDP and build on lessons learnt from Rwanda (FONERWA) and Ethiopia (CGRE Facility). This can be complemented with institution building activities to help in strategy development, investment planning, pipeline building and fiduciary and financial management capacity.

5.4. Sector specific opportunities

Transport: Natural gas powered transport. Study on converting royalties into a reliable supply chain for low carbon urban transport; operational plan for urban vehicle refuelling network; and attracting investors to develop the refuelling network.

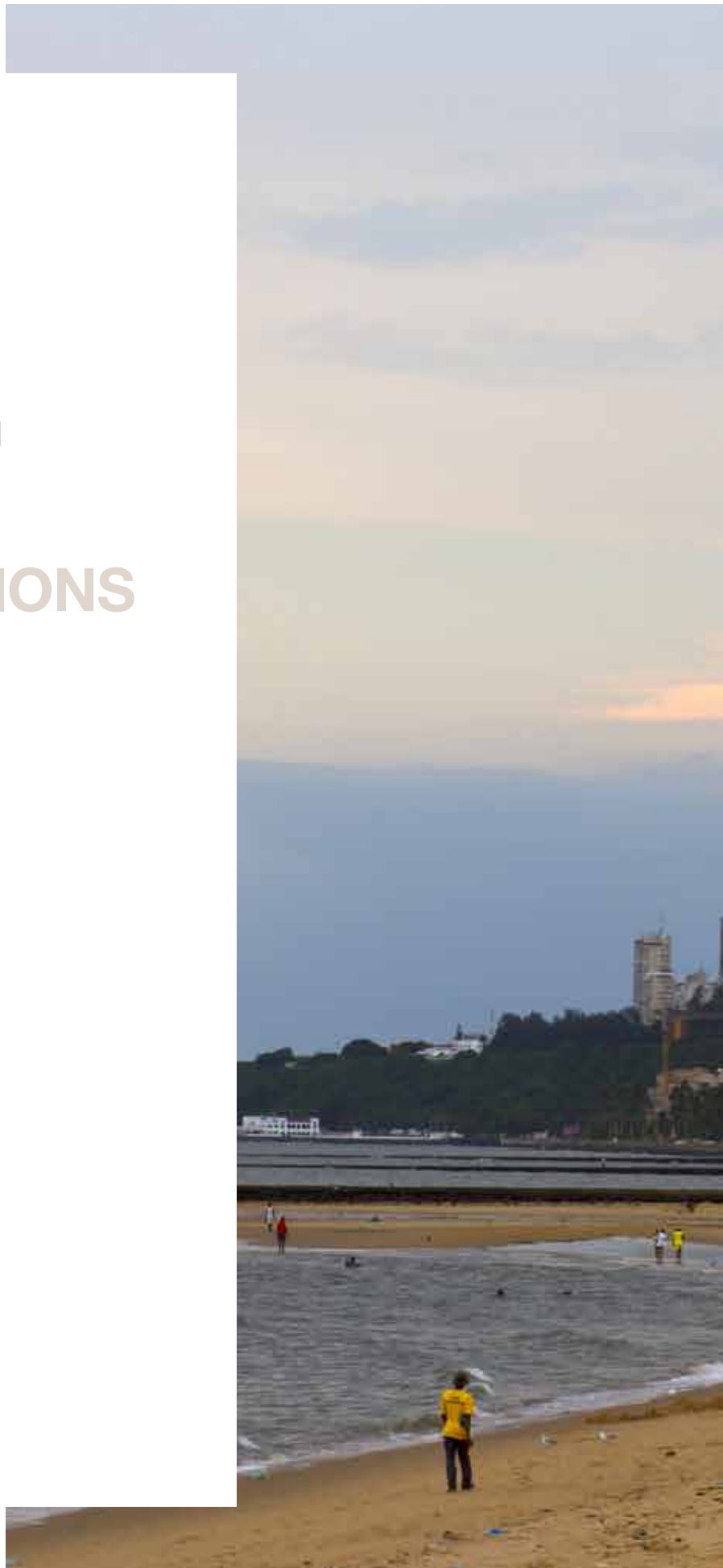
Agriculture: Conservation Farming Programme. Programme to scale-up conservation farming nationwide, learning from the Beira Agricultural Growth Corridor and AgDevCo experiences, as well as building on the Bank’s on-going work on the Pilot Project on Climate Resilience (PPCR).

Energy: Renewable Energy Feed-in-Tariffs. Support implementation of the new REFIT program, including feasibility studies, preparation of tender documents, structuring of the public procurement process and development of model Power Purchase Agreement (PPA).

Natural Resources: Biodiversity off-sets. Feasibility study for the application of biodiversity off-sets for residual impacts from extractive industry; adopting IFC PS 6 in Mozambican legislation in collaboration with IFC and World Bank.

VI.

CONCLUSIONS





Maputo, 2015

VI. CONCLUSIONS

This report provides a summary of Mozambique's green growth policy development as detailed in the Green Economy Action Plan developed by the GoM with the Bank's support and together with other development partners, namely WWF, UNEP and UNDP. In particular, this report elaborates on the advisory process by the Bank, reviews main findings at sector and institutional level and makes recommendations for the government on policy reform and identifies options for the Bank's continued engagement in this agenda. The GEAP is expected to shape the government's 5-year plan (PQG) and provide the basis for greening the GoM's National Development Strategy.

The GEAP identified three pillars (and 15 sub-sectors) as the major entry points to green economy policy in Mozambique:

1. **Sustainable infrastructure:** energy, transport, water, irrigation, sanitation, human settlements and cities;
2. **Efficient and sustainable use of natural resources:** land, agriculture, forestry, tourism, conservation areas, fisheries and mineral resources;
3. **Strengthening resilience and adaptability:** disaster risk reduction, education, employment, health and population, gender parity and women's empowerment.

The GEAP also identifies the interventions that are needed to create the enabling environment and institutional capacity for the transitioning to Green Economy policy steps. The Ministry of Planning and Development was identified as the “key coordinator” of the GEAP, with substantial roles provided to other ministries and official entities, in particular to the Ministry of Finance and Ministry of Environmental Action (MICOA). Consideration was also given to the responsibilities most appropriate to local communities and local planning management forums, as well as the Private Sector.

The GEAP comes at a crucial time when the country is faced with new development opportunities from natural resources exploration that pose critical short, medium and long-term sustainability challenges. Its breadth and thoroughness at the same time represent a tremendous challenge, which the GEAP itself acknowledges, facing institutional, informational and financial hurdles to implementation, and a process of priority setting among a range of potential policy measures. The development of the GEAP nevertheless represents a promising pathway to a greener and more inclusive Mozambique.

The exercise also served as key instrument to foster knowledge sharing and promote widespread awareness on the topics of Green Economy, both within the GoM and among other stakeholders, in particular civil society groups, private sector, and academia. The work also mustered additional development partner's support to Mozambique transition to a Green Economy, and the inclusion of the topic in the aid coordination policy dialogue. As one of the first countries on the continent attempting to incorporate green growth principles in national policy planning, Mozambique's experience will be relevant to other development practitioners, policy makers and experts interested in green growth both in and outside AfDB.

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Annex 1 - Summarized selection of Green Growth policy options

Summarised Selection of Green Growth Policy Options

(Potential Programmes of Action)

	GEAP Pillars											
	1				2							
	Energy	Irrigation-Water Supply-Sanitation	Transport	Urbanization and Liveable Cities	Water	Land	Agriculture	Forests	Fisheries	Extractive Industries	Natural Capital Map., Val. & Planning	Resilience
1. Natural capital: mapping and valuation, and integrated management objectives in national planning	●	●	●	●	●	●	●	●	●	●	■	●
2. Tenure: land, forests and payment for ecosystem service compensation	●	●	□	●	●	●	●	●	●	●	■	●
3. Consultation: community and CSO participation in natural capital valuation/planning/management	●	□	□	●	●	●	●	●	●	●	■	●
4. Agriculture: climate-resilient, conservation farming	●	●	●	●	●	●	■	●	●	□	●	●
5. Fisheries: EAF, RBM and low environmental impact aquaculture, MSC and ASC	●	□	●	●	●	●	●	●	■	□	●	●
6. Forests: RIL and landscape approach, FSC, and sustainable charcoal production	●	●	●	●	●	●	□	■	□	●	●	●
7. Water: IWRM, River Basin Committees (linking extractives, forestry, hydro-electricity, fisheries)	●	●	□	●	■	●	●	●	□	●	●	●
8. Energy: REFITs, energy efficiency standards and tax on charcoal	■	●	●	●	●	□	●	●	□	●	●	●
9. Cities: green building codes, low risk urban planning and renewable energy	●	●	●	■	●	●	●	□	□	□	●	●
10. Green technology: credit, tax and Special Economic Zones incentives	■	●	●	●	●	□	●	●	●	□	●	□
11. Climate resilience: climate data, infrastructure standards	●	●	●	●	●	□	●	●	●	●	●	■
12. Human capital: green industry training and private sector dialogue	●	□	●	●	□	□	●	●	●	□	●	■
13. Extractives: IFC PS6, improved EITI Standard	●	●	●	●	□	□	□	□	□	●	■	●
14. Economic Resilience and Equity: Sovereign Wealth Fund and domestic investment plan	●	●	●	●	●	●	●	●	●	●	●	■
15. Catalytic funds for agriculture smallholders and SME energy services	■	□	●	●	□	□	●	●	●	□	□	●

N.B.: Sectors leading the implementation of a policy option are highlighted in bold with a “■”; those also immediately relevant and involved in implementation are indicated by a “●”; while those indirectly relevant are indicated with a “□”.

Annex 2 - GEAP Initial Activities Budget

FIRST PHASE GREEN GROWTH ACTION FINANCING NEEDS 2013-2015	
Green Growth Policy Options Analysis (consultation and adoption in ENDE and PQG processes)	US\$ 500,000
Green Growth Performance Dashboard (measurement framework and indicators)	US\$ 250,000
Institutional Capacity Building (MPD, MICOA, INE, MF)	US\$ 350,000
Public Awareness (programmes on green growth imperatives and rights)	US\$ 250,000
Green Growth Business Accord (private sector and entrepreneurship driving green industries)	US\$ 100,000
Green Industry Jobs and Education Study (jobs potential and vocational training arrangements)	US\$ 150,000
Knowledge Bank (on-line green growth knowledge platform with INE)	US\$ 100,000
Greening Financial Flows (domestic and FDI)	US\$ 150,000
Financing (resource mobilisation and mechanisms)	US\$ 50,000
Natural Capital Mapping, Valuation and Planning (rapid national and in-depth in 3-4 provinces)	US\$ 1,000,000
Total	US\$ 2,900,000

Annex 3 - Integrated Implementation Framework

STRATEGIC FOCUS			IMPLEMENTATION PROGRAM		
Objectives	Results	Area Indicators	Actions	2013 2014 2015-2020	Lead (co-lead)
I. Establishing the green economy foundations and incorporating its agenda into new national development strategies	1. Sensitize all sectors to the principles of the green economy (sustainability, efficiency, resiliency and inclusiveness)	Sensitizing: 1. Public Sector (including local government); 2. Private Sector; 3. Civil Society; 4. Academia	1. Design and implement TV and radio shows, public debates, and other awareness raising tools on the benefits and responsibilities inherent to green economy	XX	MICOA
	2. GE policies are socially, environmentally and economically tailored to the country's framework, and aligned with stakeholders	Qualitative and quantitative evaluation of the 15 selected green economy policies; select oral participation on policy implementation	2. Scenario analysis (social, economic and environmental) for the 15 selected policies, a public consultation for implementation of the action plans	XX	MPD, UEM (sectors related to the 15 policies)
	3. The job creation potential from green industries is valued and promoted, while aligning national academic programs and systems	Green industries (with strong job creation potential) integration into sector programs; educational program re-oriented for green economy	3. Study on green industries job creation potential, and for those considered a priority, develop a detailed educational reform program to generate qualified human resources	X	MINED, MIC and MITRAB, (MCT, Municipalities)
II. Identify concrete policy actions to foster green economy transformation while pursuing poverty reduction objectives	4. ENDE, PQG and future national planning and budgetary instruments that ensure sustained natural capital management	Explicit integration of natural capital management objectives into the National Planning System and PQG	4. Adapt national planning instruments and the PQG to include integrated natural capital management objectives	X	MPD
	5. ENDE, PQG and strategic national planning guidelines determine the preparation of action plans for each of the 15 selected policies	Integration of the 15 selected policies into the National Planning System	5. Integrate the 15 policies into the ENDE and PQG	XX	MPD
	6. Effective and efficient management of the transition to green economy	Number of new staff and technical training for MPD, MICOA, MINEC, MF and INE	6. Institutional Capacity building: New staff and technical training on green economy coordination and management for MPD, MICOA, MINEC, MF e INE	XX	MPD (MICOA, MINEC, MF, INE)

STRATEGIC FOCUS			IMPLEMENTATION PROGRAM		
Objectives	Results	Area Indicators	Actions	2013 2014 2015-2020	Lead (co-lead)
III. Integrate green economy approach into the planning framework and the National Accounting System	7 Natural capital has a coherent management and monitoring framework in ENDE and PQG	a) % of natural capital mapped, with detailed management objectives b) Integrated management plans for natural capital	7. Natural capital mapping and detailing, with a definition of indicators for monitoring and management	XXXX	MICOA (INE)
	8. Natural capital integrated into national public accounting, harmonized with macroeconomic planning	(%) of the country's natural capital, valued and integrated into the national accounting	8. Monetary and non-monetary valuation of natural capital and integration into national accounting	XXXX	INE (MF, MPD, MICOA)
	9. GE performance improves social and environmental well-being, and economic performance	a) Progress indicators on GE performance over social, economic and environmental perspectives b) Access and functionality of the performance panel for the public	9. Development of a National Performance Panel and indicators (social, economic, environmental) for GE	XX	MPD (INE, MICOA)
	10. Private sector as driver for green industries	Green Growth Business Deal	10. Preparation of a Business New Deal for Green Economy	XX	MPD (MIC) linking with CTA and FEMA
	11. Best practices and experience sharing and fostering a green economy	GE knowledge platform	11. Create a "Green Economy Knowledge Data Bank" (website connect to INE's page)	X	INE (MPD)
	12. Financial investments (national and foreign) supporting a green economy	Regulation to align investments with green economy requirements	12. Development of guidelines for investment (local and external) and alignment with green economy policies	XX	BdM + CPI
	13. Effective and equitable investment of revenues from extractive industries (and other resource enterprises)	a) Green Economy Catalytic Investment Fund b) Environmental and Social Responsibility framework	13. Promote Green Economy Catalytic Investment Fund	X	MPD (MIC, MIREM)
	14. Social and environmental evaluation guides design of green economy policies	Environmental and social strategic evaluation for new national policies	14. Perform environmental and social strategic evaluation for new policies	XX	MICOA

	STRATEGIC FOCUS		IMPLEMENTATION PROGRAM		
Objectives	Results	Area Indicators	Actions	2013 2014 2015-2020	Lead (co-lead)
	15. Synergies between GEAP and other policies and development programs	GE actions on CONDES program, Economist Working Group and Environmental and Climate Change Working Group	15. Integrate GE actions into CONDES program, Economist Working Group and Environmental and Climate Change Working Group	XXX	CONDES + GTE, GTMCA
	16. Enough financial resources for the GEAP	Complete and approved GEAP budgets	16. Mobilize national and external resources to finance GEAP implementation	XX	MICOA + MPD



Woman in Moamba

GREEN GROWTH MOZAMBIQUE

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2015



AFRICAN DEVELOPMENT BANK GROUP