



# Mozambique

mobilizing extractive  
resources for development



## Mozambique: Extractives for Prosperity, Volume II

Capstone Report:

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# Abbreviations

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ADIA	Abu Dhabi Investment Authority
AICD	Africa Infrastructure Country Diagnostic
ANE	Administração Nacional de Estradas
ARTC	Australian Rail Track Corporation
ASM	Artisanal and Small-scale Mining
AT	Administrative Tribunal
BAGC	Beira Agricultural Growth Corridor
BBOP	Biodiversity and Business Offset Program
BSEE	Bureau of Safety and Environment Enforcement
BTU (MMBtu)	British Thermal Unit (Million BTUs)
CCEP	Central Public Ethics Commission
CEDAW	Convention on the Elimination of all Forms of Discrimination Against Women
CEP	Central Ethics Commission
CESUL	Projeto Regional de Transporte de Energia Centro-Sul
CFM	Caminhos de Ferro de Moçambique
CLIN	Corredor Logístico Integrado do Norte
CoM	Council of Ministers
CONDES	National Council for Sustainable Development
CRC	Convention of the Rights of the Child
CRVP	Commission for Receipt and Verification
DMP	Government of Western Australia Department of Mines and Petroleum
DNAC	National Directorate for Conservation Areas
DNM	The National Director of Mines
DOI	Department of Interior
EDM	Electricidade de Moçambique
EFC	Estrada de Ferro Carajás
EFVM	Estrada de Ferro Vitória a Minas
EIA	Environmental Impact Assessments
EITI	Extractive Industry Transparency Initiative
EMIS	Environmental Management and Information Systems
ENH	Empresa Nacional de Hidrocarbonetos (National Hydrocarbon Company)
EPCC	Exploration and Production Concession Contract
ESI	Estimated Sustainable Income
eSISTAFE	electronic State Financial Administration System
EU	European Union
FDI	Foreign Direct Investment
FPSO	Floating Production Storage and Offloading Vessels
FUNAE	Fundo de Energia
GAP	The World Bank's Gender Action Plan
GAPP	Generally Accepted Principals and Practices
GCCC	Central Office for Combating Corruption
GCPV	Central Victim Protection Office
GDP	Gross Domestic Product
GGFR	Global Gas Flaring Reduction partnership
GTL	Gas-to-Liquids
G 19	Group of 19 Partners for Program Aid
HCB	Hidroeletrica de Cahora Bassa
HDI	Human Development Index

HVCC	Hunter Valley Coal Chain
ICCPR	International Covenant on Civil and Political Rights
ICSID	International Centre for the Settlement of Investment Disputes
ICT	Information and Communication Technology
IEA	International Energy Agency
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IGF	Inspector-General of Finance
IIED	The International Institute for Environment and Development
ILO	International Labor Organization
IMF	International Monetary Fund
INP	Instituto Nacional de Petroleo (National Petroleum Institute)
IOC	International Oil Company
IPEC	International Programme on the Elimination of Child Labour
IRR	Internal Rate of Return
IUCN	International Union for the Conservation of Nature
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MCE	Maputaland Centre of Endemism
MDGs	Millennium Development Goals
MICOA	Ministry of Coordination of Environmental Affairs of Mozambique
MINAG	Ministry of Agriculture
MIREM	Ministry of Mineral Resources of Mozambique
MML	Minas Moatize Limitada
Model EPCC	Model Exploration and Production Concession Contract
MoF	Ministry of Finance
MP	Members of Parliament or National Assembly Deputies
Mtpa	Million-tons-per-annum
NBSAP	National Biodiversity Strategies and Action Plans
NEMP	National Environmental Management Plan
ODAMOZ	Overseas Development Assistance (Database) for Mozambique
ODI	Overseas Development Institute
OECD	Organization for Economic Cooperation and Development
OHCHR	UN Office of the High Commissioner for Human Rights
PAH	Polycyclic, aromatic and hydrocarbons
PARP	Republic of Mozambique Poverty Reduction Action Plan 2011-2014
PCI	Pulverized Coal Injection
PFCC	Petroleum Fund Consultative Council
POM	President of the Republic of Mozambique
PSSA	Particular Sensitive Sea Areas
PSC	Production Sharing Contract
SASOL	South Africa Synthetic Oil Liquid
SAIEA	Southern African Institute for Environmental Assessment
SEA	Strategic Environment Assessment
SIDA	Swedish International Development Cooperation Agency
SME	Small-and-Medium-sized Enterprise
SOE	State-Owned Enterprise
SPA	Sales and Purchase Agreement
SWF	Sovereign Wealth Fund
Tcf	Trillion cubic feet
UNCLOS	United Nations Convention On the Law of the Sea
WHO	The World Health Organization
WWF	World Wildlife Fund

# Executive Summary

The development of Mozambique's significant mineral and hydrocarbon reserves has the potential to generate substantial wealth and prosperity for the country. The magnitude of possible benefits for Mozambique has powerful implications for one of the poorest nations in the world. It is up to the Government, and the people of Mozambique, to decide when, where, and, most importantly, how to utilize their reserves over the next few decades. Fundamentally, Mozambique is confronted with several challenges to transform its abundant extractive resource wealth – residing primarily in the country's inland coal deposits and its deep-water natural gas basins – into sustained, long-term economic development. This is a task of significant but not insurmountable complexity, encompassing a range of political, economic, and social dimensions. It will require collaborative and coordinated efforts by a variety of different stakeholders, some with conflicting objectives and priorities. It is thus incumbent upon Mozambique's leadership to manage this transition with purpose and develop and implement an industrial strategy that mobilizes the country's extractive resource development in a manner that achieves a prosperous outcome for its people.

Expectations of stakeholders are high, and this will not be an easy undertaking for the Government and people of Mozambique. Over the last five decades, numerous countries across the developing world have failed to benefit from their natural resource wealth. In fact, pervasive evidence suggests that resource-rich developing states tend to have lower economic growth rates and poorer development outcomes compared to states lacking such resources. Due to these paradoxical trends, collectively referred to as the resource curse, there is a renewed international focus on resource-rich, low-income countries like Mozambique.

This report provides a comprehensive review of the critical economic, political, legal, social, and environmental variables that will affect and be affected by the rapid development of Mozambique's extractive resources. Each section proposes methodical and practical recommendations for the country's policymakers, which – if implemented – will enhance the current institutional framework governing the activities of the extractive sector. Ultimately, this report attempts to provide the Government of Mozambique with a policy framework that promotes the sustainable development of the country's economy, society, and environment, and aims to help the country avoid the perils of the resource curse. These issues are described in greater detail in the summaries of each section of the report that follow.

## *Economic and Commercial*

Mozambique stands to gain significant revenue from exploiting the economic and commercial potential of its natural gas and coal reserves. The country's offshore natural gas discoveries are among the largest finds in the world in over a decade, while its coal reserves are beginning to be exported to international markets. If it is able to successfully commercialize its extractive resources, Mozambique will become a highly competitive player on the global energy scene.

In addition to promoting economic growth, the Government's overall economic objective is to reduce persistently high rates of poverty. Currently eight out of ten Mozambicans continue to live on less than \$2 per day. In the years ahead, natural resource revenues will comprise an increasing share of the country's GDP, a trend that exposes Mozambique to several challenges in maintaining financial and social stability. Despite ongoing reforms, the country's overall capacity to absorb windfall revenues from the development of extractive resources remains

limited. Yet, with sound fiscal management, these hurdles can be overcome. There are a number of measures the Government can take to better prepare itself for the windfall. Prior to exploring such measures, however, it is first important to understand key implications of the resource curse and how it threatens Mozambique.

Generally, there are two underlying features of the resource curse that afflict countries: “Dutch Disease” and revenue volatility. Dutch Disease refers to the destabilizing impact of increased foreign exchange that inevitably follows a sharp rise in natural resource exports. A huge increase in natural resource revenues typically causes the real exchange rate to appreciate. The change in real exchange rate results in economic destabilization by reducing the international competitiveness of a country’s non-extractive resource exports (e.g. agricultural and manufacturing) and may also reduce employment in these sectors. These economic outcomes tend to adversely affect the labor force of a developing country, where undereducated workers often struggle to transition from traditionally low-skilled sectors of the economy to more knowledge-based and service-oriented industries.

Revenue volatility is another important facet of the resource curse. The disruptive effects of revenue volatility in a resource-based economy predominantly arise from fluctuations in global commodity prices. This volatility can be detrimental to growing economies and frequently results in imprudent fiscal policies. Often, governments borrow against the value of their newfound resources and spend windfalls on immediate consumption, at the expense of long-term investments that can hinder future growth opportunities for the country.

The resource curse commonly takes hold in developing nations that lack the institutional capacity necessary to manage huge resource revenues. To minimize the impacts of Dutch Disease and revenue volatility, a state must have sound institutions in place. Institutions are also necessary to manage complex public-private revenue-sharing partnerships that are typical of extractive industries. A sovereign wealth fund is one option that states can utilize to manage large inflows of resource revenue, stabilize pressures on the exchange rate, and reduce the influences of price and revenue volatility. The implementation of this fund (explained further below) is one of the central recommendations of this report. Above all, a sovereign wealth fund allows Mozambique to invest in infrastructure and socioeconomic development over the long-term, thus ensuring that the country will still see benefits of its extractive resources long after the reserves have been depleted.

### ***Linkages and Local Content***

Mozambique’s national resource wealth is not limited to revenue generation for the state but can and must flow to benefit local Mozambicans. Conventional understanding about how the local population benefits from extractive resources is typically limited to the industry’s provision of employment and a few philanthropic projects. However, extractive industries tend to have a minimal impact on the labor market. The capital intense nature of extractive industries stems from industry demand for fewer, more highly skilled workers compared to the labor-intensive, low-skilled workforce sectors – such as agriculture or manufacturing. Low prevalence of human capital in Mozambique further limits employment opportunities for Mozambicans in the extractive sector – leading to unfulfilled expectations in communities and promotes social unrest. This section provides examples and recommendations of how the Government, extractive companies, and stakeholders can increase employment opportunities for Mozambicans in the extractives sector and economic linkages between the extractive industries and Mozambique’s local businesses, especially in regions of extractive operations.

Prosperity driven by the growing extractive industry can be translated to communities in Mozambique through cultivating local content – including local recruitment, training, and purchasing local goods and services. Though not a “silver bullet” to prosperity, local content can contribute to the fulfillment of expectations that mineral and hydrocarbon production will help improve the lives of Mozambicans. Local content is also critical to the extractive industry’s operational sustainability by generating a social license to operate within a given community. Smooth, sustainable operations also benefit the state by supporting steady revenue flows and general social stability.

Given local human capital and the capacity of Mozambique’s private sector are currently very limited, it is critical that both the government and extractive companies initiate early and consistent engagement with communities and the local private sector in regard to both the type of employment and business opportunities that will be available. Additional management of expectations through transparent communication of the expected timeline of these opportunities is also necessary. To achieve optimal local content goals, the government must also invest deliberately in the provision of poverty-reducing public goods, including quality education, literacy, and healthcare, which in turn serve to improve human capital in the long-run. These efforts require significant strategic social investment by stakeholders to build the capacity of local communities and enable individuals and businesses to compete and access income-generating opportunities in the newly established extractive industry value chain. Without investment in the development of Mozambique’s human capital and building capacity of the local business sector, Mozambique’s ability to fully access and realize the potential benefits of its vast natural resource wealth will remain retarded. Finally, this section also discusses the need to develop and implement a strategic plan that mitigates inward migration, local food price inflation, and constraints on community resources affecting areas impacted by extractive industry operations in Mozambique that could be source of social instability.

### *Infrastructure*

Marked rates of underdevelopment in Mozambique are closely tied to the country’s shortage of infrastructure, which has largely failed to respond to social and economic development needs. Although recent public, private, and donor investment in developing Mozambique’s infrastructure has focused much more on facilitating the trade derived from megaprojects, it might also represent an unparalleled opportunity to build a system that fosters inclusive social development. The Government has the option to take advantage of the international community’s willingness to invest and orient economic resources to address infrastructure-related impediments of development.

Ensuring inclusiveness, through both connection and universal access to roads, railways, and electricity, must be at the heart of this endeavor. Railways, in particular, must guarantee access for general freight and passengers, as well as for mining companies. With respect to Mozambique’s roads, an upgrade and significant extension of the network would decrease transportation costs for all parties. This, in turn, would help mitigate the country’s high rates of poverty and inequality, permitting both the mining provinces and the rest of the country to benefit from extractive industry operations. Special attention must be paid to use of roads as connectors between impoverished yet potentially productive areas and the Beira, Nacala and future Macuse corridors. Finally, despite the current efforts of the Government to bring the grid to every district, only a small percentage of Mozambicans have reliable access to electricity. The potential for clean production must be developed to provide electricity access beyond district centers, and to help reduce Mozambique’s reliance on unsustainable energy sources.

### **Environment**

Protecting the country's ecology is critical to Mozambique's vitality and will require investment and attention to environmental governance that keeps pace with resource extraction. First, to mitigate environmental risks inherent in resource development, research into fisheries and terrestrial ecosystems is necessary to create a baseline for conservation priorities, since much of Mozambique's ecology is not well researched. The existing Environmental Impact Assessment review period is also too short for the increasing volume of assessments and the current limited capacity of the Government and civil society. Such assessments for large extraction projects and their corresponding infrastructure development should be made available to the public with a longer, more adequate review period than the current 45 days. In line with the country's existing environmental law, specific requirements and guidance on biodiversity offsets must be drafted and enforced to ensure that all small and large-scale extractive resource projects account for environmental impacts from the beginning of the project.

Mozambique's current environmental legislation should be reinforced with more detailed guidance. Exemplary laws from other countries, such as Norway, can be utilized for legal reference until a robust new set of laws can be established. With ongoing active exploration of the natural gas, Mozambique should dictate when and where seismic surveys are conducted in order to protect the delicate biodiversity surrounding the nation's corals and fisheries. In addition, the government must create an environmental emergency plan so that, should accidents occur, the various government ministries have an aligned mitigation strategy that facilitates rapid response. Additional funding, training, and resources allocated to environmental ministries are also necessary to expand their capacity to study the nation's ecology, properly implement protective legislation, and adequately monitor mining and natural gas exploration and production. Additionally, the growing artisanal mining sector needs strategic Government support to organize associations, as well as train, guide, and monitor expansion to ensure the safety and prosperity of Mozambicans. In this way, small-scale mining could become a means to reduce poverty as opposed to creating conflict and environmental degradation. All of these governance strategies will need to be implemented quickly and should utilize revenues from the extractive industry to guarantee that Mozambique's dynamic ecology continues to be a source of pride and the pillar of a growing tourism industry.

### **Resettlement**

Resource exploration, mineral concessions, and infrastructure development have all exponentially increased the resettlement of communities in Mozambique, especially in remote areas. Although the country has the extraordinary opportunity to strategically translate its mineral assets into long-term sustainable development, extractive operations can only be fully successful if the investments are embedded in stable and prosperous communities. One of the country's top objectives should be to leverage the recent boom in extracting natural resources to improve the living conditions of Mozambicans and to ensure a prosperous environment in which companies can diligently operate.

If Mozambique follows five basic resettlement principles, the rights of Mozambicans and compliance with the international conventions and agreements that the nation has pledged to support will be ensured. First, projects that require resettlement must conduct early, inclusive and transparent consultations to give communities the opportunity to make decisions on issues directly affecting their lives. Early consultation also helps build critical buy-in from impacted populations. Second, it is key to provide communities with the tools and information to diligently participate in negotiations that reach fair agreements. Third, compensation, that

includes improved livelihoods and standard of living is key to translating resource extraction into prosperity for individuals affected by resettlement. Fourth, resettlement processes entail negative environmental impacts that must be diligently addressed as they highly impact the health conditions and access to other resources (water, soil, etc.) of the surrounding communities. Lastly, an inclusive and legitimate post-resettlement committee must oversee agreement compliance, progress, and accountability. Such a committee also recognizes that communities are dynamic and future agreements will have an established channel for discussion. A well-structured and well-managed resettlement process, jointly agreed upon by communities and companies, can help to ensure that extractive operations and other projects that require resettlement enjoy greater community buy-in and promote sustainable development.

Mozambique must also ensure that women are not left out of opportunities to participate in and benefit from the country's development through the extractive industries. The Government bears a duty to ensure women's equal access to socio-economic opportunities, reduce disruptions to their standards of living and improve livelihoods. In the context of mining operations, Mozambique can meet these challenges by implementing its existing laws and Constitutional provisions which guarantee the equal rights of men and women, along with amending existing mining legislation to address issues on resettlement, consultation and compensation.

Such arrangements also stand to benefit from local resources (including human capital), thereby reducing the likelihood of conflict. The resettlement process in Mozambique is ongoing, and there are a number of ways that the Government can promote mutually beneficial resettlement agreements leaving all parties affected better off and fairly attended.

#### **Legal Framework**

From a legal perspective, Mozambique must aim to reform and update the legislative, institutional, and contractual frameworks associated with extractive industries in order to maximize the gains from and minimize the costs of extractive resource development. In this context, Mozambique is currently reviewing its legal and fiscal frameworks for oil and gas exploration and production, to take into account developments in the industry and new gas discoveries. Recent drafts of the petroleum legislation contain several important additions that address infrastructure, revenue sharing, oversight, and environmental protection. However, the law needs further strengthening to ensure that new and existing projects are carried out in a safe, fair, and efficient manner. Vague references to "good industry practice" should be replaced with clear and transparent obligations. Deals should be standardized and their key terms should be set in legislation to improve transparency and competitiveness. Companies must be assured fair and open access to facilities to promote competition and increase efficiency. Penalties must be clear and significant to deter bad behavior. Environmental protections should take into account that companies are often in the best position to monitor, prevent, and mitigate environmental and health risks. The Government must also preserve its ability to reform and improve its legislation over time - especially in relation to the environmental, social, and health impacts of extractives.

The fiscal regime should draw on a range of different tools to generate a fair share of revenue for Mozambique. While opinions may differ on what is "fair", Government revenue should amount to at least one third of the profits for mining and 65% of the profits for oil and gas over the lifetime of a project. As the industry becomes more established, and business conditions improve, this share should increase substantially for future projects. The regime needs to balance up-front income with long-term objectives - taking into account the legitimate interests

of investors, the capacity of public agencies to administer the regime, and the interests of future generations of Mozambicans.

There is also a critical need for existing mining legislation to be examined and amended, in order to better reflect the growth of the sector and to protect the interests of the Mozambican people, particularly with respect to environmental, health, social, fiscal and contract transparency considerations. Accordingly, provisions of the current Mining Law of 2002 should be amended in these distinct areas, giving mining activities a modern and adequate regulatory basis to ensure greater competitiveness, guaranteeing the protection of rights and defining the duties and obligations of holders of mining titles. While the Mining Law of 2002 is undergoing revisions and is expected to be passed by Parliament in the coming months, this section sets forth policy recommendations which illustrate some of the gaps and challenges present in Mozambique's mining legislation. Reforms in the mining laws offer an important opportunity for the country to further develop its economy, and importantly, to promote equity, reduce poverty, and meet its development goals through a forward-looking approach. The recommendations in this section are offered to strengthen, clarify and update existing mining legislation, and provide guidance on how mining activities can be conducted in a manner, which prioritizes and improves the social and economic well being of the Mozambican people.

#### **Governance**

The Government must adopt a transparent and uniform policy framework and fiscal regime to effectively administer the process of extractive industry development vis-à-vis government costs and revenues. To this end, Mozambique should create an accountable and transparent framework of governance to manage its extractive assets. There must be checks and balances built into the institutional structures of the Government. This will create accountability, separate responsibilities to minimize conflicts of interest, expand powers for specific agencies to fulfill their roles, and allow for agencies to manage extractive resource development accordingly. Mozambique must also focus on anti-corruption measures to improve its governance. Some useful tools include the anti-corruption law as well as other Information and Communication Technology platforms that can help bolster the country's systems of oversight. Above all, transparency must become a fundamental part of the extractive industry's contractual process, to ensure that all parties are getting their fair share of revenue.

#### **Sovereign Wealth Fund**

Sound revenue management is key to the sustainable development of Mozambique's economy. The financial impact of natural gas and coal exportation can have detrimental effects for the country. As mentioned above, problems arise from real exchange rate appreciation, which puts other export industries out of business, and from fluctuation in commodity prices, which is destabilizing for the domestic economy. Establishing a sovereign wealth trust fund in a traditional financial center will help Mozambique absorb the coming windfall and promote growth and development in the country in five key ways. First, it effectively shelters the domestic economy from the commodity sector, so that volatility in oil, gas or coal prices do not have such a disruptive effect on the country's budget planning from one year to the next. Second, by channeling revenues into specific development programs, the fund can help the government to focus and plan for expansion of infrastructure, education, healthcare and public services. Third, the fund can help to ensure that government revenue from extractive resources become an ongoing source of income for decades to come, and provide intergenerational equity. Fourth, and crucially, a sovereign wealth fund can insulate Mozambique's currency, helping to ensure that investment in the extractives industry does not have negative impacts on other



sectors of the economy. Finally, the trust will legally enshrine the purpose of the fund and thus insulate Mozambique's fund from sovereign debt and facilitate the country's access to international financial markets due to improved legal standards.

### *Mozambique Moving Forward*

Mozambique is embarking on potentially one of the most defining opportunities of the nation's history. Despite the impoverished state of much of the country, Mozambique is endowed with significant hydrocarbon and mineral resource wealth in an era that is experiencing innovation, awareness, and collaboration at an unprecedented rate. The nascent development of Mozambique's large-scale hydrocarbon and mineral reserves is a point of strength and opportunity for structured and deliberate leadership to shape the future of Mozambique into a prosperous regional authority with the capacity to be a source of strength and guidance beyond its borders.

There is universal familiarity with the potential outcomes that lie ahead for Mozambique. The nation's limited human capital and restricted absorption capacity of the local public and private sectors to adapt and manage the rapid changes underway exemplifies the necessity for Mozambique to engage actively, early, and transparently to realize the opportunities at hand. However the continuum that flows between a resource blessing of prosperity and a resource curse is process of significant complexity. Multi-directional relationships between the economics, social, environmental, political and legal aspects of natural resource development requires clear frameworks and implementation of transparent objective that will benefit the nation now and for future generations. The areas this report examines identifies the current and potential weakness that could derail Mozambique's intention to pursue a path of sustainable development that is supported by revenues and income generating potential of the growing explorations and production of Mozambique's natural resources. Each section also includes recommendations that address the challenges and opportunities specific to the changing environment of Mozambique's natural resource extraction.





Photo: Gorongosa National Park  
Mozambique  
Piotr Nasrecki

## Introduction

On the south-eastern coast of Africa, Mozambique is a country of extraordinary natural beauty and cultural diversity. While its natural riches have been known to the world for centuries, it is only recently that the discovery of extensive gas reserves and coal deposits have drawn the attention of foreign investors.

As one of the least developed countries in the world, Mozambique faces significant challenges to bring these resources safely and sustainably to market, and to manage the resulting funds. In the aftermath of independence and a devastating civil war, the country has made significant progress to build social stability and begin to lift its people out of poverty. However, much work remains – and while extractive resources offer opportunities for prosperity and growth, the influence of multinational corporations, donors and international organizations (each with different interests) has complicated an already complex environment.

This project has reviewed Mozambique's unique economic, legal, institutional, environmental, and social context to assess the potential impact of the extractive industry (both positive and negative). Through consultation, research and interviews, the team has drawn on the knowledge within Mozambique, as well as on the experiences of other countries, to formulate a number of specific and implementable recommendations that will help Mozambique to mitigate the risks and maximize the benefits of extractive industry development. Our team's particular focus has been to harness the existing strengths and potential within Mozambique civil society and government, and to prioritize key areas of reform.

The Capstone team began work in November 2012, and carried out desk research from Columbia University in New York for several months. In March 2013, eleven team members

traveled to Mozambique. While most of our time was spent in Maputo conducting interviews with stakeholders, companies, donors, NGOs and Government agencies, two team members traveled to Pemba to research the new natural gas developments in that region. We were privileged to have the assistance and insight of dozens of committed people during this period. Although our visit was brief, we were able to conduct over 40 meetings addressing the broad scope of issues covered in this report. On our return to New York, further research supplemented our interview material.

The resulting report is divided into nine sections, each with a particular focus. However, many of the issues overlap – and these themes are addressed from several angles. Key themes that emerge throughout the report are the importance of education, the need for engagement and consultation with local communities, and the opportunity for Mozambique to learn from and improve upon international experience.

Section 1 provides an overview of Mozambique’s Economic and Commercial context, and introduces some of the key considerations for the development of extractive industries. In addition to outlining the prospects for Mozambican gas on the world market, this section discusses the important issues of contracting and financing LNG production. The local and global commercial prospects of coal production are also discussed.

Next, we address the importance of creating linkages between foreign enterprises that invest in Mozambique’s extractive industry, and local companies. In particular, the section highlights that small and medium-sized enterprises need support, regulation, infrastructure, and training to improve their efficiency, and to engage in commercial relationships with international investors. By encouraging “linkages”, Mozambique can ensure that foreign companies are more integrated and more efficient, and that the benefits of extractive industry can flow directly to the communities where they operate.

Section 2 expands on this idea, exploring the benefits and practicalities of “local content” requirements. Employment of local residents, procurement from local suppliers, and other forms of local input can increase efficiency for companies and generate “social license to operate.” This section provides an overview of Mozambique’s socio-economic context and a close-up view of two regions that are greatly impacted by coal and natural gas development – Tete and Cabo Delgado, respectively. Finally, the section addresses areas of risk and strategies for mitigation, including inward migration and inflation.

Section 3 provides a snapshot of Mozambique’s infrastructure with a focus on roads, railways, and energy. It assesses the potential impact of expansion by extractives companies and presents an argument for inclusive infrastructure – infrastructure that is accessible and affordable for local people, and for other enterprises.

Section 4 highlights the multiple, complex environmental concerns that extractives development raises. Natural gas exploration and production and coal mining both present threats to the environment, to livelihoods, and to health, including marine life, water quality, air quality, land, and biodiversity. The section presents a number of recommendations for legal and institutional changes that will help to preserve Mozambique’s unique ecology and landscape, and to protect the health of its people.

Section 5 presents an analysis of the impacts of resettling communities to make way for

extractive resource projects. The section highlights the importance of an early, open, and inclusive consultation process, founded on free and informed consent. Recommendations focus on improving resettlement practices, including compensation and protecting livelihoods, and identify the particular safeguards that are needed uphold the rights of women.

Section 6 moves to the legal framework for mining in Mozambique. It outlines the current legislative provisions and licensing process, and provides detailed recommendations on how these laws can be strengthened and improved. Environment, resettlement, fiscal and transparency issues are all considered.

Section 7 assesses the existing gas and petroleum laws, and discusses options for reform in light of the most recent draft amendments. It presents an analysis of the “gaps” in the law and touches on the particular issue of foreign investment and arbitration.

Section 8 presents the case for strong and reliable institutions to govern extractives industry in Mozambique. It outlines the progress that Mozambique has already made towards transparency, and recommends general and entity-specific policy changes. Capacity building and e-governance are also discussed.

Section 9 proposes a sovereign wealth fund for Mozambique, with a structure that will help to ensure that extractive industry revenues are a blessing, and not a curse, for the country. The section outlines how a sovereign wealth fund can help to manage Dutch disease and inflation, presents options for managing and investing the resources, and identifies the various funds which could be created to direct revenues into the Government budget, stabilization, development and savings, development.

The report concludes with a summary of the Recommendations, and a Bibliography of sources.

The Appendices are intended to provide additional detail and context for interested readers. They include resources that have been collated by the authors from a range of different sources, for ease of reference. Appendix 1 sets out a number of tables with additional detail about the legal framework and contracts for mining, gas and petroleum, including some advantages and disadvantages of the different types of fiscal tools used by governments to collect revenue from extractive operations. Appendix 2 includes resources for Sovereign Wealth Fund governance, including international comparisons, details of the *Santiago Principles* and the Linaburg-Maduell Transparency Index. Finally, Appendix 3 includes relevant development indicators for Mozambique, along with comparison countries for reference. The tables incorporate economic, commercial, social and governance indicators, and serve as a “snapshot” of Mozambique’s current development.

# A Note on Priorities

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This report sets out 105 distinct recommendations for Mozambique, covering economic, infrastructure, social, legal, environmental, governance, and financial issues. The recommendations, which are summarized at the conclusion of the report, should provide guidance and provoke discussion among government, civil society, donors, and the business community. However, it is unrealistic to expect that Mozambique will be able to address all these issues immediately and simultaneously. The people of Mozambique must decide what issues are most pressing and most important for themselves.

This section is intended to give an outline of what the Capstone project team identified as the key priorities for change in the short and medium term.

## *Get the legal framework right to ensure a balance of rights and responsibilities*

Mozambique's legal framework for oil, gas and mining needs drastic changes to address the challenges that lie ahead. It is essential that the new laws set out clear and detailed obligations for companies and for the government about responsible environmental and social practices. Where gaps remain, the laws should refer to the rules of jurisdictions with robust laws, such as Norway and Australia. The fiscal regime must also be clear, transparent, and standardized for all projects – not negotiated on a case-by-case basis. Closely related to the law is the importance of institution-building to enable implementation. Mozambique's ministries and government agencies must have the support, the training, the power, and the resources to effectively negotiate concession contracts, regulate, monitor, and enforce the legal framework.

*See: Section **Error! Reference source not found.: Error! Reference source not found.**, Section **Error! Reference source not found.: Error! Reference source not found.**, Section **Error! Reference source not found.: Error! Reference source not found.**, and Section **Error! Reference source not found.: Error! Reference source not found.***

## *Carefully manage the revenues from extractive industries for the benefit of all Mozambicans*

Oil, gas and mining have immense economic potential – but that potential will only be realized if projects are taxed appropriately, and revenues are managed carefully. Once a fiscal regime is in place, the revenues from all projects should be paid into a resource fund that is designed to suit Mozambique's situation. A Sovereign Wealth Trust Fund would provide a structure that is clear and straightforward, with enough flexibility to allow for different stages of development. First, extractives revenues could contribute to initial budget funding (in lieu of donor funding), and could be used to help stabilize the economy. As the fund grows, investments in infrastructure and special development projects could follow. Ultimately, the fund could also incorporate a savings fund that generates wealth for decades to come.

*See: Section **Error! Reference source not found.: Error! Reference source not found.**, and Section **Error! Reference source not found.: Error! Reference source not found.***

## *Provide economic opportunities by making infrastructure inclusive and accessible*

Infrastructure development will be an essential component for Mozambique to turn its resources into commodities. However, infrastructure that serves only large commercial enterprises can exacerbate inequality. The government must plan carefully to ensure that the

money invested in infrastructure has as many flow-on benefits as possible – this means engaging with small enterprises and with the public to ensure access to reliable transport and electricity networks.

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#### **Protect and empower local populations to preserve stability**

Mozambique must immediately address the disruptive impact of current and future resettlement projects to ensure that local populations do not lose out when extractive projects take place in their region. Over time, these disruptions can violate fundamental human rights, entrench poverty, cause social unrest, and make it impossible for businesses to operate efficiently and safely. By encouraging local content and local linkages, Mozambique can help to ensure that foreign investment is more efficient and contributes to real, sustainable benefits to the community.

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#### **Education is critical to sustainable growth and a better quality of life**

Although it is not a dedicated topic in this report, education and capacity-building is a common theme in our analysis. Training and education will help Mozambique's lawmakers, officials, civil society, business people, and all citizens to make good decisions about managing extractive resources. The revenues from those resources, in turn, should be invested in improving the quality and accessibility all levels of education – from primary through to specialist tertiary education.

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#### **Foster and protect Mozambique's other "comparative advantages"**

Once the coal has been mined, and the gas extracted, Mozambique will need to depend on its people, its land, and its waters for continued economic growth. Among others, Mozambique has the potential to develop a vibrant agricultural sector, and a world-class tourism industry. But both of these sectors could be seriously threatened if extractive developments are not well planned or well regulated. Loss of arable land to mining, pollution or contamination of water, disruption of habitats, and the physical scars of extractive industries will directly impact this economic potential. It is possible for these industries to coexist – but only if strong and enforced laws protect the environment and the people of Mozambique.

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From 2009 to 2011, David worked as Project Manager for Intertek in Shenzhen where he developed services and delivered trainings on labor ethics and environmental sustainability to Chinese suppliers and international brands. Prior to Intertek, David worked at Business for Social Responsibility where he assisted with corporate ethics advisory work on Exxon Mobile's natural gas work in Papua New Guinea. David has also served as the Guangdong Program Manager for Concordia Welfare and Education Foundation (CWEF), the Communications and Philanthropy Associate for the Nature Conservancy China Program in Yunnan and has worked with other NGOs including Habitat for Humanity International, WWF China and Daytop Drug Abuse. and Rehabilitation Center.



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Elizabeth has over six years of private and public sector experience engaging stakeholders on four continents. She is passionate about oil and natural gas industry non-technical risk, sustainability, social performance, and energy policy. While at SIPA, Elizabeth has conducted applied research in Liberia, Uganda, Georgia, and Mozambique on the intersection between FDI mega-projects and community impact. She is trained in designing business solutions and integrated sustainable development to enhance social license to operate, with a focus in the energy industry



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In 2012, Justin served as the Cross-Cutting Issues Intern at the Secretariat of the International Conference on the Great Lakes Region (ICGLR) of East Africa. He focused on the development of policy frameworks and indicators for transnational issues. Prior to SIPA Justin spent 6 years as the V.P of Marketing for LZI, a Biotechnology Diagnostics Leader, and oversaw its transition to positive earnings. Justin was an Assistant Researcher for UCSD's Dept. of Anthropology, working with Geographic Imaging Systems and data modeling on Brazilian civil transformations of land ownership rights.



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Leena has practiced as an attorney in Washington, DC and New York City in the areas of corporate, immigration and political asylum law. She previously worked in Pakistan and Cambodia on a range of human rights issues, including securing land rights for marginalized communities and analyzing the gender impacts of discriminatory legislation. As a fellow with the Institute of Current World Affairs in Pakistan, Leena monitored and documented a range of human rights violations carried out against women and religious minority groups. She has also worked extensively with rural communities in Northwestern Cambodia, and conducted trainings which focused on educating indigenous women on their land and property rights. Her interests lie in the intersection of law, gender, human rights and equitable development policies.



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Alex will be graduating from SIPA with a degree in Sustainable Energy Policy. From 2009-2011, he worked in an operations management position for a start-up energy company in California that provided independent power generation across the state. Through his professional and academic experience, Alex has gained a comprehensive understanding of the energy industry and its impact on the environment. He hopes to pursue a career in the clean energy sector.



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This past summer James interned with UNDP and the United Nations Mission in Liberia where he researched governance structures in Liberia's commercial timber sector and provided recommendations to improve transparency and regulatory frameworks. Prior to attending SIPA, James worked with the Burmese NGOs Arakan Oil Watch and Shwe Gas Movement in Chiang Mai, Thailand. In his work with Arakan and Shwe, James focused on investigating CSR policies of companies investing in Myanmar's oil and gas resources, global transparency norms, and local human rights abuses that occurred alongside project development in Myanmar.

## Mozambique Capstone



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Maree is a Research Associate with Vale Columbia Center on Sustainable International Investment and Managing Editor of the Columbia FDI Profiles. Prior to Columbia Law School, she was a lawyer advising clients on a wide range of commercial issues, including trade and investment, financial services, and corporate governance. Maree advised clients on compliance with biosecurity, environmental, and climate change regulation. A highlight of her professional work was advising the Solomon Islands government and the Pacific Islands Forum on development projects, including sustainable fisheries investment and state-owned enterprise reform. Maree has facilitated workshops and presented seminars with practitioners, government officials, and senior law officers from Pacific Island countries.



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Carolina is currently a Research Associate at the Vale Columbia Center on Sustainable International Investment focusing on extractive industries and sustainable development. She worked in Chile with Teck Resources Limited at its Carmen de Andacollo Copper Mine. Prior to SIPA Carolina worked for over five years leading CSR and sustainability at Grupo Manuelita, an agroindustrial corporation producing food commodities and renewable energy in Latin America. Her experience includes stakeholder engagement, strategic planning, organizational change, social and environmental reporting, corporate communications, and liaison with all sectors at all levels.



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Paloma is a MSc Civil Engineer with professional experience in the private sector and nonprofits. Between 2011 and 2013 she pursued a masters degree at SIPA, Columbia University, focusing on development while gaining a deep insight into the field of international affairs. As an engineer, she has worked in international infrastructure projects, project finance and public private partnerships in Asia, Middle East, Africa, America and Europe. In the field of development she enjoyed a first experience when volunteering in Guinea Bissau in 2009. In 2012 she worked in Kisumu, Kenya, on a health infrastructure project and, more recently, she was selected to work as a consultant in the field of extractive industries, researching on the opportunities for development in Paraguay and in Mozambique. In both cases she focused her analysis on macroeconomics, competitiveness, and infrastructure-related challenges.



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In 2012, Bettina served as a Research Fellow for Advocates Coalition for Development and Environment, Uganda. She advised the Government of Uganda on economic and legal impacts of petroleum production, attended parliamentary meetings with the Natural Resource Committee, conducted interviews to evaluate transparency frameworks, and commented on enabling legislation for Public Finance Bill 2012. Prior to SIPA Bettina worked as an assistant director in an art gallery in Zurich.



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WEI WEI actively served with Greenpeace China and focused on Climate Change Mitigation and Climate change advocacy. During this time he served as a Participant of the UN Climate Change Conference Represent of China Youth Group. He did his internship in China's impact investing last summer. His primary focus was environment impact investing. He visited several energy enterprises in North China and drafted several business plans for potential investment opportunities.



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