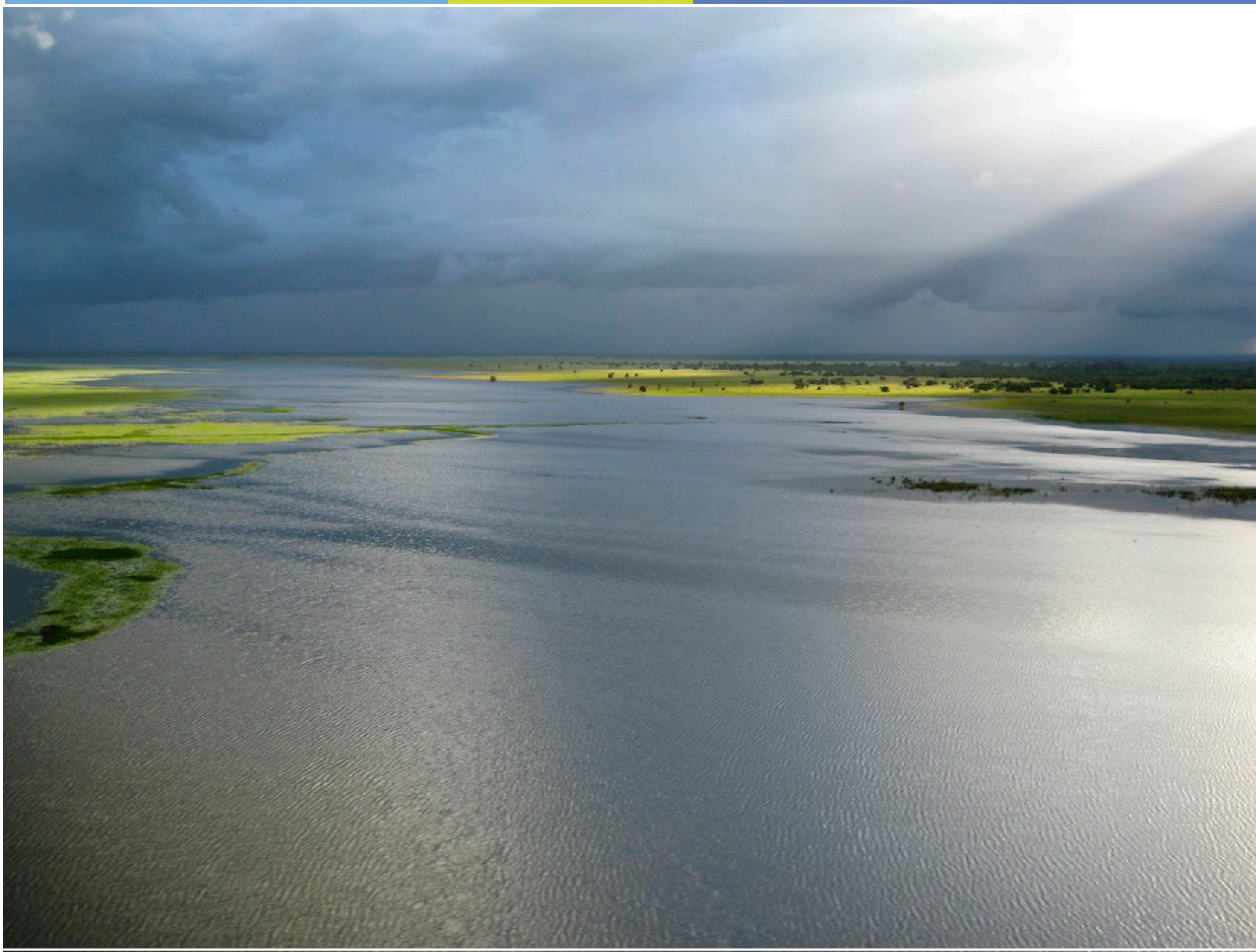
Mozambique

mobilizing extractive resources for development



Mozambique: Extractives for Prosperity, Volume II

Capstone Report: School of International and Public Affairs

David Abrahamson
Elizabeth Herb
Justin Jee-Zen Lin
Leena Khan, Esq.
Alexander LaBua
James Meisenheimer
Maree Newson, Esq.
Carolina Ocampo-Maya
Paloma Ruiz Gonzalez
Bettina Strickler
WEI WEI

Supervised by Professor Jenik Radon, Esq.

Acknowledgements

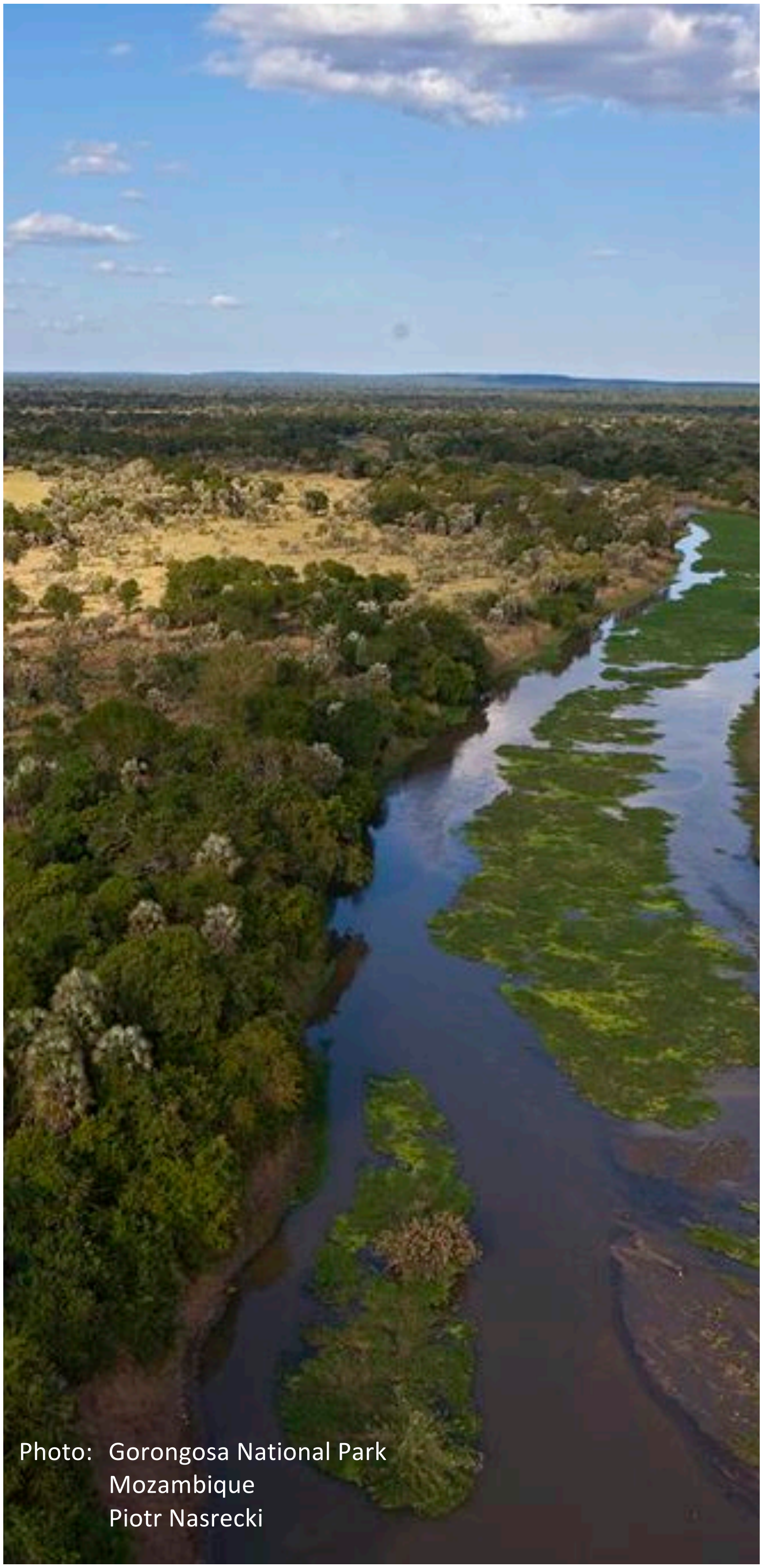


Photo: Gorongosa National Park
Mozambique
Piotr Nasrecki

This report is the final deliverable of a capstone project realized at Columbia University's School of International and Public Affairs. The capstone usually constitutes the final project for graduate students who bring their diverse professional and educational backgrounds to the project and are in their final semester of a rigorous, two-year degree program.

The Mozambique Capstone team would like to acknowledge the many individuals and organizations that provided invaluable assistance in the creation of this report:

- Professor Jenik Radon, the capstone advisor, for his outstanding wisdom and mentorship.
- The Mozambique Governance Watch team, led by Dionisio Nambora, for sharing their insight, hosting the capstone team, and assisting in arranging our work in-country.
- William Telfer, for his knowledge, input, and assistance in arranging meetings with Government Ministries in Maputo.
- Columbia University's School of International and Public Affairs and the Earth Institute, for providing financial support for this project.
- The over 40 interviewees from government organizations, parliament, civil society, donor community, the mining and oil and gas industry, academia and others who generously offered their time to meet with us in Mozambique and elsewhere, for their candor and guidance.
- The authors of the previous report in this series, Oil: Uganda's Opportunity for Prosperity, for their research and advice.
- Gorongosa National Park, for the stunning cover photograph.

Contents

Table of Contents

Abbreviations

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 National 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 it's 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.

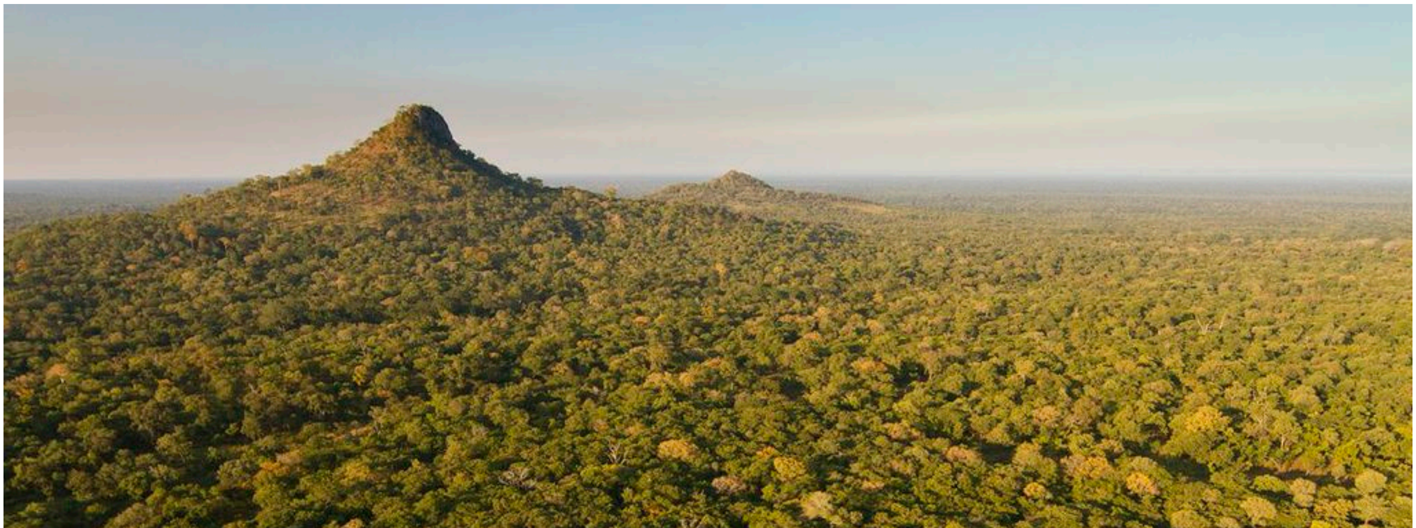


Photo: Gorongosa National Park
Mozambique
Piotr Nasrecki

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 ensue 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

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 6: The Need for Upgraded Mining Laws, *Section 7:* Gas and Petroleum Laws*, Section 8:* The Case for Strong and Reliable Institutions*,* and *Section 4:* Protecting Mozambique's Environment*.*

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 1: The Economic and Commercial Implications of Natural Gas and Coal*, and Section 9:* Managing Wealth: The Sovereign Wealth Fund*.*

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.

See: Section 3: The Need for Inclusive Infrastructure.

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.

See: Section 2: Translating Extractive Industry Prosperity to Mozambique's Communities and *Section 5:* Ensuring Social Equity in Extractive Industries-Based Development.

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.

See: Section 2: Translating Extractive Industry Prosperity to Mozambique's Communities, *Section 4:* Protecting Mozambique's Environment, and *Section 8:* The Case for Strong and Reliable Institutions.

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.

See: *Section 4:* Protecting Mozambique's Environment, and *Section 5:* Ensuring Social Equity in Extractive Industries-Based Development.

COLUMBIA
SIPA
School of International and Public Affairs

Mozambique

mobilizing extractive resources for development

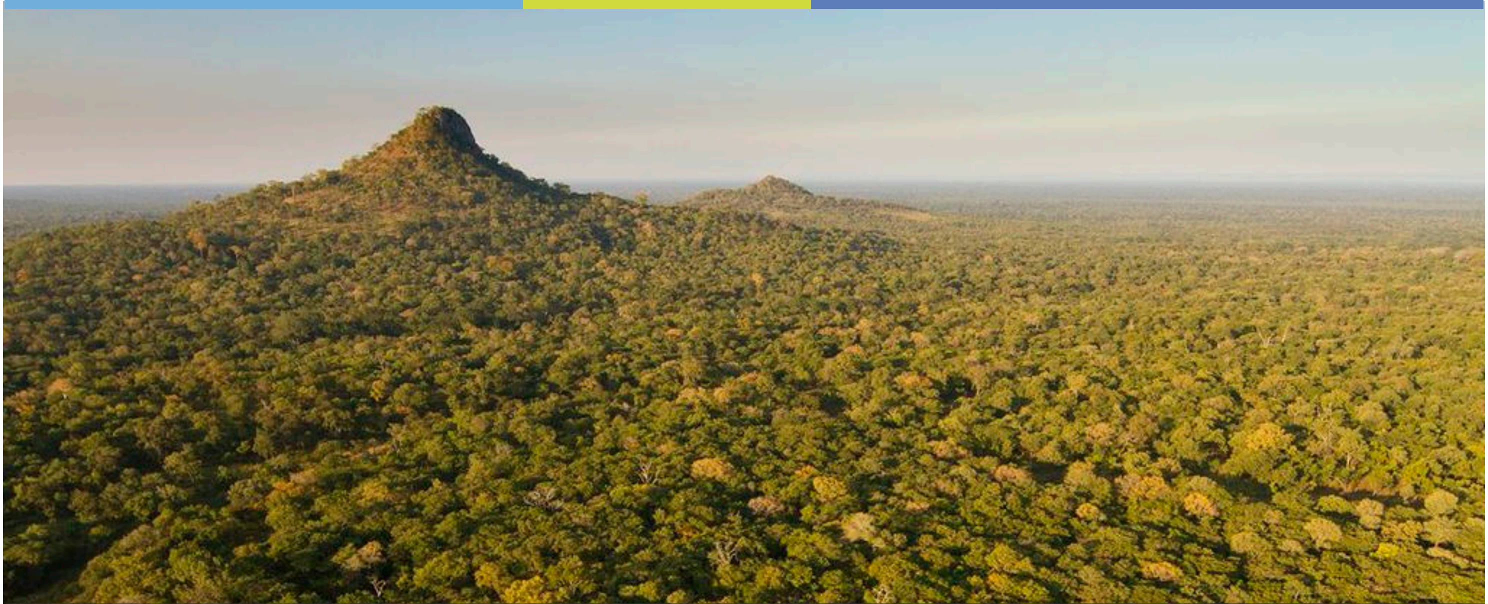


Photo: Gorongosa National Park
Mozambique
Piotr Nasrecki

Section 2

Translating Extractive Industry Prosperity to Mozambique's Communities

2 Translating Extractive Industry Prosperity to Mozambique's Communities

The development of Mozambique's large mineral and hydrocarbon reserves has the potential to generate substantial wealth and prosperity for the country (see *Section 1.1:* The Mozambican Economy). This national wealth creation is not limited to revenue generation for the state but can, and must flow to benefit local Mozambicans – particularly those living in impacted communities or in close proximity to extractive industry operations. One key avenue of translating prosperity to these communities is through *local content*. 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 and efficiency by generating a *social license to operate.* At the same time, smooth, sustainable operations also benefit the state by generating steady revenue and supporting general social stability. However, as outlined in the Republic of Mozambique Poverty Reduction Action Plan 2011-2014 ("PARP"), local *human capital* and the capacity of the private sector in Mozambique are limited. Thus, in order to effectively manage expectations, 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, as well as the expected timeline of these opportunities. To achieve optimal local content targets requires 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*. This section will discuss the significance, challenges, and opportunities of developing local content and implementing strategic social investment in Mozambique's coal and natural gas industry project areas.

Key Concepts for this Section

Local content refers to the set of actions— local recruitment, training, purchases of local goods and services — that are designed to develop the industrial infrastructure and skills of the people in countries that host extractive industry projects. It is generally measured as a percentage of investment, hours worked, the equipment manufactured or the number of jobs created. Developing local content can support the sustainability of the project and potentially spur economic and social growth.

Social license to operate is the ongoing approval within the local community, other stakeholders and/or broad social acceptance of a project. It is rooted in the beliefs, perceptions, and opinions held by the local population and other stakeholders about the project and thus is granted by the community. It is also intangible (and non-permanent), unless effort is made to measure these beliefs, opinions and perceptions as new information is acquired. Hence the *social license* has to be earned and then maintained.

Human capital is the stock of competencies and knowledge that enable an individual to perform labor so as to produce economic value.

Strategic social investment is financial and non-financial organizational resources invested in a community or social concern. The primary motivation is to lay the foundation for developing present markets and creating the preconditions for future market expansion. Medium to longer-term economic returns are expected (though not in the short-term).

2.1 Introduction

Significant and increasing inflows of extractive industry foreign direct investment ("FDI") into Mozambique bring equally high expectations for improved livelihoods and prosperity amongst Mozambicans. Well-structured development of Mozambique's extractive industries and simultaneous investment in cultivating national human capital can support the realization of these expectations and propel Mozambique from the bottom echelon of the development indicators to a position of regional leadership (see Appendix 3: Development Indicators). These strongly anticipated results are particularly prevalent in regions directly impacted and/or in close proximity to extractive industry projects – where poverty rates are often higher, FDI is more visible, and negative impacts of the extractive industries are more likely to occur. Consequently, while the macroeconomic impacts of Mozambique's extractive industries are undisputed, the beneficial microeconomic impacts on local communities are much more uncertain.

Extractive industries, because they are more capital intensive, often produce fewer job opportunities than expected (see *Section 1.4:* Creating Economic Linkages*.* The potential for social unrest or conflict is much greater where expectations of reaping benefits from nearby extractive operations are not actively managed. Social unrest can cause delays or closure of operations, revenue volatility, negative impacts on investor climate, and other short and long-term undesirable externalities. Thus, given the medium to long-term time horizon of an extractive industry investment, a strong social license to operate is beneficial for all stakeholders. Early, consistent, and transparent communications between the government, private sector, and community members is a vital component to maintaining social harmony. Local content is fundamental to translating the potential benefits of an extractive industry project to the local community and national economy.

Local content is vital to providing access to employment, increased income generation, and improved livelihood opportunities to members of Mozambique's local and national communities. Local content strategies that target and incorporate the *local local* and *local national* populations into the employment, training, and procurement opportunities available in the extractive industries value chain are essential to securing a strong social license to operate. Implementing an inclusive, holistic local content strategy, however, presents several challenges in Mozambique.

Local local population refers to individuals who lived in the community impacted by the extractive industry project prior to the entry of the extractive company.

Local national population refers to Mozambicans who are not from the impacted community.

Mozambique's legislation includes local content requirements. Nevertheless, significant strategic social investment by stakeholders is required to build the capacity of individuals and businesses to meet minimum labor and procurement conditions of local content opportunities. Limited education, adverse health challenges, and poor market linkages have inhibited the development of human capital in Mozambique and currently prohibit the majority of the local local population (and much of the local national population) from competing and accessing extractive industry employment and income generating opportunities. With forethought, planning and diligent implementation, the current barriers to Mozambique's human capital development can be overcome.

The province capital cities of Tete and Pemba in central and north Mozambique (respectively), along with other communities with significant extractive industry projects, have been experiencing high *inward migration* of (potentially) better-qualified local national and foreign workers and companies.

Significant inward migration into a community, as is the case in Tete and Pemba, increases demand on social services and physical resources. If inward migration is not actively managed, demand on social services and resources will exceed the absorption capacity of the community. High inflation of food prices and other goods is already being experienced in these two communities (see *Section 9:* Managing Wealth: The Sovereign Wealth Fund). Negative impacts on community health in some areas, such as increasing prevalence of HIV/AIDS in Tete, have also been documented. If shortages of necessary social services continue, the development of human capital will likely be impeded. Prolonged and increased levels of stress on community and environment resources have already been a source of social unrest and will likely lead to more conflict if a timely, well-structured policy is not implemented. Given approximately 300,000 youth are expected to join the labor force in Mozambique each year – for the next several years – an increase in employment expectations and/or a *benefits gap* could exacerbate social tensions in an already fragile environment.

Therefore, thorough design, implementation, and monitoring of local content strategies and strategic social investment policies by the government and private sector are all necessary to unlocking the potential for improved livelihoods at the local level. Structured execution of extractive industry FDI must adequately and transparently establish adequate and transparent access to income generation opportunities for a variety of local stakeholders – which is a prerequisite for ensuring social stability and economic prosperity in Mozambique. Moreover, to build local local human capital and private sector capacity, all stakeholders should be required to contribute with well-coordinated strategic social investment.

Inward migration (in this context) is the relocation pattern of foreign and national people to extractive industry areas. Migrants are typically seeking improved livelihoods through employment opportunities (that may or may not be available), prospecting land that may come under a concession and/or other reasons.

Benefits gap refers to the gap between the *potential* for economic social benefit available and *actual* economic and social benefit realized.

2.2 Local Content

The following sections will examine the opportunities, challenges and concerns for translating social benefits to communities in extractive industry areas. It will also provide recommendations for developing local content and implementing strategic social investment in Mozambique's coal and natural gas operation sites located in the regions of Tete and Cabo Delgado.

Local content is not a "silver bullet" for prosperity in local communities of extractive industry projects. In Tete and Cabo Delgado, Mozambicans have very high expectations of the government and coal and natural gas industries for improved livelihoods. Local content is critical to establishing and maintaining a social license to operate and supporting the socio-economic development of Mozambique's communities being impacted by exploration and production activities. To achieve sustainable benefits in the medium to long-term requires foresight, coordination, resources and flexibility in the planning and implementation of the strategy. Objectives should also be based on a thorough understanding of the local context (see *Section 2.3.1:* Socio-Economic Overview in Mozambique). When implemented successfully, local content can improve project operational efficiency and sustainability, reduce operational costs, stabilize state revenue from operations, and have other positive socio-economic externalities that last beyond the lifetime of the project.

There are two primary arteries for delivering local content:

1) ***Employment*** (operating companies, contractors, and sub-contractors):
    a) recruitment of skilled and unskilled labor; and
    b) training of skilled and unskilled labor.
2) ***Procurement*** (operating companies, contractors, and sub-contractors):
    a) acquisition of core goods and services; and
    b) acquisition of *non-core* goods and services.

Non-core goods and services refers to products and labor that are not directly utilized by extractive industry operations. Examples include laundering and catering services, procurement of food, etc.

An effective local content strategy is flexible to adjust to community and environmental changes that are unique to Mozambique. Utilizing thorough baseline and periodic monitoring data to track progress, inform decisions, and communicate outcomes will also benefit government, companies, and communities.

While the extractive industry companies require goods and services "now", the *current* limitations of Mozambique's human capital and private sector prohibits full participation of the local local community in local content activity. Thus, it is in the state, private sector, and community's interest to actively manage the benefits gap in order to avoid social instability that may transpire in the community. Given that extractive industry investments range from medium to long-term, there is a strong incentive to pursue a holistic approach to administering local content strategies. Though extractive operations in Tete and Cabo Delgado are at various stages of exploration and production, local content strategies that incorporate multi-dimensional time horizons that match project cycles and actively target a variety of stakeholders will help realize the full potential of local content. The following subsections will explore and provide recommendations regarding employment and procurement of coal and natural gas industries in Tete and Cabo Delgado.

2.2.1 Employment

The greatest shortcoming in Mozambique's rapid economic growth has been job creation. 81.5% of the labor force is employed in agriculture and 8.1% are self-employed outside of agriculture.[126] Over half of the only 7.5% salaried employees work in the public sector.[127] FDI projects account for approximately 90% of all jobs created in Tete, Cabo Delgado, Manica, and Niassa.[128] Aside from agriculture, limited alternative sources of income increase the vulnerability of poor rural households to weather shocks, natural disasters, and market fluctuations. In times of scarcity they have little to buffer them from food insecurity. Thus, it is critical to Mozambicans' livelihoods (particularly food security) to establish a foundation from which Mozambicans can access employment and diversify their income generating activities. Employment and diversified income generation is particularly acute for those living in rural areas and witnessing the development of the extractive industry, but have limited capacity to access opportunities made available by the industry.

A critical issue for Mozambique now and over the next few decades will be to generate sufficient jobs for its young and rapidly growing population. Mozambique's working age population reached 9.5 million people in 2010 and is expected to increase to 12 million by 2020, 15.8 million by 2030 and 19.7 million by 2040.[129] Thus, providing stable wage and salaried job opportunities to match the rate of expansion are among the nation's most critical social and economic issues. Employment in the extractive sector offers a significant opportunity to improve income for Mozambicans since wages in this sector are typically higher compared to those in other sectors of local economies.[130,131]

Given the *capital-intensive* nature of extractive industries, *direct employment* is very limited. Even in high resource dependent countries, the extractive sector rarely accounts for more than 1% of employment – ranging from unskilled to very highly-skilled labor.[132] While indirect jobs fair slightly better, the limited supply in extractive industries for direct employment (and thus prevalent good salaries) results in a potential benefits gap in expectations among local communities (see *Section 2.3.1:* Socio-Economic Overview in Mozambique). As Dr. Don Hubert has explained: [133]

Capital-intensive refers the ratio of the financial capital required to the amount of labor. Capital-intensive projects require large amounts of money and other financial resources to produce a good or service (compared to the labor requirement).

> *In Mozambique, Sasol's $1.2 billion investment resulted in fewer than 700 long-term jobs. Vale's $1.7 billion investment resulted in fewer than 900. In 2010, all megaprojects combined accounted for 3,800 positions. When coal production reaches full capacity in 2016, employment in the extractive sector is expected to be 7,000 or 0.01% of the total population. The oil and gas industry is even more capital intensive.*

Mozambique's current legislation sets forth requirements and preference for local employment and procurement in extractive industry projects (see *Section 6:* The Need for Upgraded Mining Laws and *Section 7:* Gas and Petroleum Laws). The level of vocational and academic training in Mozambique remains low. Approximately 80% of the workforce has not completed the first level of primary school, and only 13% is doing so.[134] In the private sector, only 31% of the workforce has completed at least the second level of primary school.[135] A sufficient number of engineers, geologists and metallurgists are simply not educated in Mozambique to meet the demands of the growing extractives industry. Therefore, if capable labor is not available in Mozambique, companies may seek employees elsewhere – which under the circumstances is very likely and may also enhance inward migration (see *Section 2.3.1:* Socio-Economic Overview in Mozambique).

Under these current conditions, the greatest opportunity for large-scale employment in extractive industries is in the construction phase. During the remainder (and longest portion) of the project cycle, there is a significant shortage of adequate and appropriate industrial skills in local communities to meet company needs. Thus, the shortage of human capital is one of the primary barriers to immediate implementation of a local content strategy.[136]

In line with PARP, Rio Tinto and Vale have financed the development of a vocational training school in Tete that focuses on geology and other relevant topics for the coal industry. Anadarko has partnered with Eduardo Mondlane University in Maputo to support the engineering and geosciences programs. These are notable and important steps aimed at training future generations to access opportunities in the extractive industry. However, these opportunities will be available to only a small percentage of Mozambicans (*see Section 1.4:* Creating Economic Linkages). Therefore, in addition to these training programs, transparent and significant levels of community engagement, combined with strategic social investment in the development of a broader human capital base, is required on the part of all stakeholders (see *Section 2.3.1:* Socio-Economic Overview in Mozambique). Implementing a holistic strategy addressing high expectations against a limited supply of much needed and desired jobs will help mitigate the potential for social unrest.

Case Study: Total's US$4.5 billion Yemen LNG project

Launched in August 2005, Total aims for 90% Yemenization of staff by 2015. To achieve this, Total set up an integrated strategy to recruit, train, retain and motivate a world-class Yemeni workforce via employment terms and conditions that are highly competitive within the region.

To compensate for the scarcity of local human capital in LNG operations, Yemen LNG set up training centers that offer intensive, high-calibre training programs for technical specialists, engineers, and supervisors. Total conducted an advertising campaign to attract candidates through radio, TV, and the national press. Out of 16,000 application forms submitted for technical specialist level, the company chose 200 candidates. Training consisted of an intensive three-month English program, followed by eight months of training in oil and gas techniques, and then 13 months of hands-on training. Of 7,058 applicants for the supervisory training levels, 82 engineers and supervisors ultimately joined the Yemen LNG project. Many of the supervisor trainees for this specific level had acquired skills and knowledge working abroad. Total offered competitive packages to these expatriates to attract them back home and to participate in the development and the operation of the LNG project.

The training program for the Yemeni LNG plant was a first for the country. Based on the results, Yemen LNG intends to run further programs to train technicians to fill vacant positions as the first batch of trainees move on to assume senior and supervisory roles.[137]

Recommendation 10:

- Active, early, and honest community engagement by government and extractive companies, and (if possible) monitored by designated civil society organizations about opportunities, expectations, challenges, and strategic solutions to employment.

- Develop the local content plan at the very early stages of resource evaluation; implement programs prior to construction to support sustainable workforce development.

- Coordinate with internal and external stakeholders, and the development of flexible, transitioning, and exit strategies for each stage of the project cycle.

- Partner with national and local government, donors, and IFIs if companies do not have adequate experience designing and implementing local content programs in a development context.

2.2.2 Procurement

> ***Inclusive business*** is the explicit targeting of middle to low income communities, potentially in addition to and/or to the detriment of pursuing more profitable markets, and incorporate these communities into their value chain as suppliers, clients, customers of entrepreneurs – rather than simply as passive beneficiaries and instances.

Procurement includes a range of core and non-core goods and services in an extractive industries project value chain that is required by the company, its contractors, and subcontractors. Though not a direct source of employment, well-structured procurement and expanded value chains provide significant opportunity to practice more *inclusive business* practices. Thus, with foresight, planning, and capacity building, a greater number of Mozambicans may be able to benefit from the extractive industries by gaining access to income generating opportunities. This section does not assert all extractive industry goods and services can and will be sourced locally. Several private sector capacity limitations in Mozambique make procurement of some core goods and services from local suppliers uneconomical. However, in addition to enhancing social license to operate, increased use of local sources – particularly for non-core goods and services – may increase reliability of supply and cost efficiencies due to closer proximity of operations to supplier structures.

Procurement of core goods and services, such as fully assembled rigs, heavy machinery, and sophisticated monitoring equipment, have traditionally relied heavily upon imported equipment and production inputs. Large contracts and complex technology, quality, safety, human capital limitations, and reporting requirements often exclude local small and medium enterprises (SME) from competing for these bids. Shifting the sourcing of goods and services from global to local providers in the short to medium-term has the potential to increase project costs, delay schedules, and negatively affect commercial value. Nonetheless, several extractive industry companies have successfully expanded their pools of local suppliers. While the establishment of core local goods and service suppliers will require long-term investment, companies that design local content strategies that pursue non-core goods and service procurement from local suppliers, with a preference for local local suppliers, will in effect support broader impact in the community.

There are a number of challenges in procuring from local suppliers. In addition to building general business "best practices" (such as standardization of quality of products and delivery) which will be addressed in the strategic social investment section – SMEs in Mozambique experience a lack of access to capital at manageable interest rates, (see *Section 1.4:* Creating Economic Linkages). Interviews with various institutions in Mozambique revealed that efforts made by some IFIs to introduce credit opportunities outside of Maputo have resulted in access to capital, but at a very high premium, with interest rates sometimes exceeding 150%. To counter this negative externality, extractive companies, in support of local enterprise development, can provide letters of assurance to banks in order to enable their suppliers to borrow capital at lower interest rates that can finance their operations.

Given that strong relations are established with the supplier, extractive companies can also explore flexible pay cycles of less than the 90-day payment threshold. This mechanism would reduce fiscal pressure on smaller suppliers that are not yet linked into the global supply chain and subject to debt obligations without sufficient cash flow. This payment structure allows for flexibility on a case-by-case basis, while lowering the chances of local bankruptcy and supporting the positive impacts of local procurement.

Innovation of procurement contractual arrangements can provide greater access and participation in the extractive industries value chain by the Mozambican private sector. Unbundling contracts and evaluating progress at periodic milestones, before progressing with additional projects, can produce positive impacts in the local community by providing greater access to bidding opportunities. While this process may create a different level of complexity in the supply chain or increase risk exposure and cost, companies can also develop a procurement strategy that incentivizes international contractors to engage local suppliers in a way that supports upgrading skill and enhancing competitiveness. *See Section 2.3.1:* Socio-Economic Overview in Mozambique*.* Measuring the success of a local supplier using the same business metrics – such as quality, consistency, and efficiency – that a company uses for any other supplier will also support a local supplier's ability to compete in external markets.

Extractive companies can also leverage partnerships with peer companies and other institutions (both government and non-government) to scale and sustain impact – particularly with respect to capacity building. Without the critical mass and potential sustainability that a group of companies can provide, many local content programs will not be viable beyond the life of the initial contract or have lasting income-generating effects beyond the life of the extractive project.

Finally, local content and procurement strategies that are aligned with community supply strengths offer significant opportunity to deliver broad positive impact in extractive industry communities. In Tete and Cabo Delgado, agriculture is the primary source of employment and livelihood. Although production levels are low, strategic social investment and procurement incentives that targets incorporation of local local farmers into procurement of goods for catering services could help establish a stable market for local farmers. It should be noted that there are several potential negative externalities that could result from a well-intended but mismanaged initiative. Low agricultural production in Tete and Pemba, combined with inward migration, has led to high levels of inflation in food prices in these isolated regions. However, as illustrated in the case of Uganda below, a well-coordinated strategic social investment could produce positive socio-economic impact in neighboring communities of extractive industry operations (see *Section 2.3.1:* Socio-Economic Overview in Mozambique)*.*

Case Study: Tullow's procurement strategy to procure from local agriculture

Launched in 2012, the agricultural supply chain initiative aims to provide technical assistance to farmers in Western Uganda, Tullow's area of operations, and link local, small and medium-scale farmers with buyers. The project also cooperates with the district farmer's associations and Uganda's National Agricultural Advisory Services (NAADS) technicians to leverage resources and maximize impact.

Western Uganda, where hydrocarbon exploration and production is underway, has immense agricultural potential. It is located four-to-eight hours from the capital and produces much of the nation's food. However, due to challenges of economies of scale and poor market linkages between suppliers and buyers, food is purchased at the farm, transported to the capital and then inefficiently re-sold in Western Uganda. This increased the price of food for all parties and reduces the shelf life of the produce as the products spend significant time in transit.

Central to the agricultural supply chain initiative model is improving the consistency of farmer participant's quality and quantity of produce. Therefore, rooted in the standards required for any market, farmers can compete and supply the catering companies contracted by Tullow as well as other businesses (such as hotels, restaurants, etc.) locally and in other markets nationally. The initiative also connects farmers in the district to improve economies of scale, thereby increasing reliability and consistency of supply to buyers. Finally, the initiative provides a business skills and agricultural handling center where farmers can engage in transactions with buyers and learn tools to improve their business skills, along with other local entrepreneurs.

This initiative has resulted in a "win-win" situation for all stakeholders. Participant farmers develop a comparative advantage over regional farmers, receive a better price for their products, and develop the opportunity to supply to a consistent market – thereby reducing the risks of market instability and fluctuations in revenue generation. Buyers, such as Tullow's catering companies and other local and regional businesses, receive produce that is fresher, lasts longer, and is purchased at a lower price than in the capital city. Additional savings is realized in reduced mobilizations costs. The community and Tullow also experience a mutually beneficial interaction that supports a strong social license to operate.

A targeted, well-structured procurement strategy that adapts to the characteristics unique to Mozambique, will enhance the social license to operate, create positive socio-economic impacts of extractive industry operations, and support Mozambique's PARP goals. A well-designed strategy and its implementation can encourage companies to engage in early capacity building for potential suppliers through programs targeted at upgrading capabilities to meet company needs for reliable and skilled suppliers, and help local firms compete in local and national markets. However, as discussed below, capacity of human capital and the private sector must be developed to fully realize the potential of extractive industry FDI at the local level.

Recommendation: 11

- Partner with key contractors to share risks.
- Leverage partnerships with peer companies and other institutions to scale up impact.
- Pursue a higher level of complexity in the supply chain.
- Practice open-book approaches that allow primary contractors to cover additional costs related to contracting local suppliers (i.e. management and supervisory costs).
- Determine whether and how suppliers have met delivery milestones, and provide feedback to suppliers on successes and shortfalls, at each *decision gate* – before contracts on subsequent project steps are awarded.

Decision gates are major control points in a project that are used to move from one phase of the project to the next.

2.3 Building human capital and business capacity as a foundation for local content

Mozambique needs educated and healthy citizens in order to boost agricultural output and productivity and to create more jobs. Access to quality health and education services as well as to social security programs that will protect the most vulnerable members of society is indispensable for a strong and well- trained labor force.

Mozambique's Poverty Reduction Action Plan[138]

Mozambique has significant human capital and SME capacity limitations. Without structured, active investment, the ability for the local community to fully access and benefit income generating opportunities in the extractive industry value chain will remain limited.

Extractive industries, by their very nature, have medium to long-term time horizons – which often exceed many if not most other sectors. The industry does not have the luxury of mobility since operations are defined by mineral and energy deposits. While extractive companies may operate offshore, underground, and in emerging markets, they function most productively (like any private firm) in stable economic and political environments, with strong, uninterrupted supply chains, and with markets for both their inputs and products. Therefore, building human capital and expanding economic opportunity in host communities, countries, and regions can reduce risk, decrease costs of production, and increase profitability for extractive companies.

Human capital is vital to a vibrant, resilient local and national economy. Mozambique has a growing abundance of human resources that can be transformed into human capital with effective inputs in education, health, nutrition, and clean water (see *Section 1.4:* Creating Economic Linkages). Strategic social investment by companies, the government, and international institutions can yield high return on investment for extractive companies and boost the capacity of the national economy for the benefit of the country. Investing in sustainable initiatives that helps diversify the local economy not only creates income and employment opportunities outside of the extractive industry, but decreases dependence on the industry as the sole provider of livelihoods. Providing funding for initiatives without creating state dependency, as well as managing community expectations about wealth-sharing, is critical to maintaining the social license to operate.

Successful, sustainable strategic social investment strategies are in line with core business objectives and Mozambique's poverty reduction strategy. Sustainable investment by companies and government leverages the key strengths of the company and community that builds the capacity of local local SMEs and human capital through business development, education, health, and other services support local content. The sections below analyze the current limitations to socio-economic development in Tete and Cabo Delgado and recommend high impact areas of investment that are in line with extractive industry core business objectives.

2.3.1 Socio-Economic Overview in Mozambique

Poverty rates in Mozambique's rural areas are significantly higher compared to its urban areas. More than 70% of the country's poor households live in rural areas, surviving on less than US$1 a day, and lacking basic services such as access to clean water, to health facilities, and schools.[139] Although progress has been made since 1997, the number of poor people has been stagnant since 2007.

Health

One hundred out of every 1,000 Mozambican children will die before their first birthday. Mozambique has only three doctors and 21 nurses per 100,000 people, reflecting one of the most dire health personnel shortages in the world.[140] About half of Mozambique's entire public health sector infrastructure was destroyed during the civil war and most has not been rebuilt. Currently, two thirds of rural Mozambicans have to walk more 15 kilometers (or more than an hour) to reach the closest health facility. Life expectancy at birth of 48 years remains below the sub-Saharan Africa average.[141]

Maternal mortality rates have fallen dramatically from 890 deaths out of 100,000 live births in 1995 to 550 in 2008. The prevalence of malnutrition among children under five years of age decreased from 28.1% in 1997 to 21.2% in 2003, bringing the mortality rate of this age group down to 141.9 deaths per 1000 in 2009.[142] While undernourishment fell to 38% from 2005 to 2007, this level remains extremely high and still places Mozambique among 12 countries classified as having "very high" undernourishment rates by the FAO.[143]

The prevalence of HIV/AIDS, affecting 12% of the population aged between 14 and 59 year, and malaria are major public health concerns that have powerful detrimental consequences on the country's development and human capital formation.[144]

Infrastructure

Approximately 80% of existing health centers lack water or electricity. Only 31% of Mozambicans have access to improved sanitation, resulting in one of the lowest levels of per capita water consumption in the world.[145]

Population

Mozambique has a high total fertility rate of 5.2 births per woman. The overall estimate masks important differences between urban and rural areas (where the fertility rate is probably over seven) and the nearly 45% of the population which is under the age of 15 years.[146] This high total fertility rate exacerbates other health risks.

Education

Mozambique is slowly rebuilding its education system after the civil war that destroyed at least half of the country's primary schools and delayed modernization of the educational system. Rural learners must travel an average of 4.5 kilometers or more to the nearest school. Female literacy rates stand at 28%, lagging far behind those of males at 60% and more than a million school-age children do not regularly attend school. The adult literacy rate is at 55% **-** below the sub-Saharan Africa average.[147] To meet the increased demand for teachers, the Ministry of Education has resorted to using unqualified teachers – their numbers have risen from 30% in 1997 to 40% in 2005. *The HIV/AIDS pandemic has had a major impact on Mozambique's teaching cadre: an estimated 2,700 teachers lost their lives to HIV/AIDS between 2002 and 2006.*[148]

School drop-out rates remain high and rates of primary school completion are far below the regional average. Many teachers must work double or triple shifts each day to accommodate the number of students – degrading the quality and education. Significant disparities remain in gender equity; currently less than a third of girls complete primary education, with 54% of female students dropping out by 5th grade.[149]

Very few Mozambicans enroll in universities and receive university degrees each year – creating only a small pool of locals to fill key technical and management positions in the government and private sector.[150] Altogether, Mozambique's poor health and education systems help explain the country's limited available human capital. These factors have prevented the local private sector from meeting stringent standards for extractive industry procurement and contracting.

2.3.2 Socio-Economic Overview in Tete and Cabo Delgado

The regions of Tete and Cabo Delgado have similar hurdles that inhibit human capital and local private sector development. Communities throughout both regions rely primarily on subsistence agriculture for livelihoods. Poor market linkages and low access to credit, technology, and improved farming practices act as disincentives to produce higher yields.

Poverty is caused by isolation, inadequate infrastructure and the consequent lack of access to goods and services – particularly social services. The road network is in very poor condition and basic services are inadequate. Alternative sources of income outside agriculture are very few, and this increases the vulnerability of the rural poor to natural disasters. In times of scarcity most rural Mozambicans have little to buffer food insecurity. Significant challenges to developing human capital in both Tete and Cabo Delgado are illustrated in the high illiteracy rates of 56.2% and 66.6% (respectively) – which far exceed the national average of 43.9% (see *Section 1.4:* Creating Economic Linkages).

2.3.3 Strategic Social Investment for a Brighter Future

Mozambique has been one of the fastest-growing least developed countries (LDCs) over the past two decades. Nevertheless, Mozambique still remains one of the poorest countries in the world. Building human capital and private sector capacity is essential for long-term national economic development and poverty reduction – as outlined in PARP. Extractive companies do not function in isolation from the societies and communities in which they operate. Furthermore, whether to deliver local benefits in the communities where extractives companies operate is no longer a choice.

As illustrated above, education in Mozambique has been insufficient to create a pool of skilled workers to meet growing demand. In a 2008 survey of enterprises, the low level of education among workers was identified as a major obstacle to conducting business in Mozambique.[151] Approximately one quarter of foreign and export-oriented firms cited this issue as a major constraint.[152] *See Section 1.4:* Creating Economic Linkages. As a result, skilled foreign workers are in high demand and investors tend to negotiate ways to be able to hire foreigners above the set quotas.

Strategic social investment can provide complimentary benefits that support the development of local content. Strategic social investment benefits both the investor (i.e. government, company, and/or international organization) and community. Improved human capital may reduce operation costs in the medium-term by reducing training costs and decreasing necessary investments in healthcare because healthy workers typically require less medical assistance. In addition to supporting PARP and a company's social license to operate, investments in education (training and traditional) allow for local hire – which in the long-run is cheaper than importing foreign workers.

Some efforts are underway in Tete and Maputo to increase education and training of Mozambicans in extractive industry skills (as mentioned in *Section 2.2.1:* Employment). However, given the limited number of educated Mozambicans in Tete and Cabo Delgado, it is questionable whether the local content training programs planned or underway are maximizing the human capital development opportunity at hand. Anadarko has also made very modest investments in healthcare by bringing periodic visits of pediatricians to Pemba. This is a minor, non-sustainable investment made by one of many companies operating in the area. Should strategies and agendas be aligned, the potential impact of these initiatives could be magnified.

Extractive companies can have greater impact when they develop inclusive business models that integrate local SMEs into their value chains, thus creating indirect employment and fostering the development of local entrepreneurs. To support the procurement process, Rio Tinto has also opened a business center in Tete where businesses can learn more about how to bid for procurement contracts. The company has experienced some successes with this project and hopes to increase the number of firms capable of bidding for contracts.

Given that the majority of local community members derive their livelihood from agriculture, there is significant potential to support agricultural business development. By investing in agricultural activities that focus on increasing production, managing land responsibly, developing quality and consistency standards, and training improved farming techniques, investors effectively support PARP objectives and socio-economic development for the local local population. Increased local agricultural production will also mitigate inflationary pressures on food prices. Extractive companies and their catering subcontractors also have the option to act as a buyer of local produce, thereby reducing mobilization costs. Reliable markets will also produce steady streams of income for farmers and dampen volatility in seasonality of sales.

Mozambique is also located in an ideal location, at a crossroads to several regional markets. Given economies of scale can be reached amongst local producers, with logistical support of stakeholders and local partners – it is reasonable for farmers in Cabo Delgado and Tete to sell their goods to external markets.

Case Study: Botswana's use of revenue from diamond industry to develop national human capital

Upon achieving independence in 1966, Botswana was one of the poorest, most aid dependent nations in the world. After thirty years of fiscal responsibility, Botswana has risen to a middle income country and is among the highest development indicators in Africa (see **Figure 21**).

The mining sector employed only a small portion of labor force. The company, Debswana, made modest contributions per year that combined with annual revenue from the extractive industry, transitioned the country away from aid dependence and towards self-sufficiency. As illustrated in the chart below, investment of public funds in the development of *human capital* resulted in a strong, competitive workforce.[153]

Figure 21: Botswana - Diamonds, Revenues and Social Development

	1966	1990	2006
Economy			
GDP	$30m	$3,000m	$11,000m
GDP per capita	$85	$2,742	$5,920
Budget			
National Budget	$3m	$1,600m	$4,400m
Donor % Budget	60%	14%	3%
Diamond % Budget	0%	60%	50%
Social Investment			
Health (% of budget)		4%	16%
Education (% of budget)	15%	17%	21%
Social Development			
Poverty		52%	30%
Infant Mortality	95	56	80 (HIV)
Literacy	30%	67%	89%

Source 1: Hubert, *Resources, Revenues, and Social Development: Prospects and Challenges for the Extractive Sector in Mozambique*.

Recommendation 12 :

- Engage with local communities very early in the project cycle to identify community needs, shortcomings, and strengths.
- Align community strengths with private sector demands – build capacity where possible (and needed).
- Pursue a higher level of complexity in the supply chain.
- Leverage/pool resources amongst stakeholders.
- Engage international organizations to leverage expertise when designing and implementing capacity building initiatives.

2.3.4 Areas of Concern

Mozambique's significant natural gas and coal reserve discoveries have given rise to very high and often unrealistic expectations of development benefits. As a large number of major multinational energy and mining companies continue to make their presence felt in Mozambique, they are finding challenges to the long-term sustainability of their operations in local communities. Extractive companies are subject to public opinion and activism driven by perceived and actual imbalances in the distribution of benefits from resource extraction. Grievances can be expressed through strikes, protests, and the occupation and destruction of property. Instances of social unrest have already been documented on several occasions in Tete regarding resettlement and compensation (see *Section 5.1:* Resettlement Resulting from Extractive Activities). Thus, limited understanding of both benefit constraints as well as disruptive impacts of the sector require structured and consistent engagement to manage expectations – particularly among local communities. The sub-sections below highlight the most likely areas of social impact that has or could result in social unrest in Tete and Cabo Delgado, aside from issues arising from resettlement.

Inward Migration:

The arrival of multinational extractive companies in Mozambique brings the promise of much-needed jobs and the perception of improved livelihoods through other income generating opportunities. Mozambique's high unemployment rate and limited human capital encourages inward migration to extractive industry projects because much of the industry demand can not be supplied by the "local local" population. While massive rates of inward migration to Tete are undisputed, there is no official monitoring of the rate of population change. In Pemba, the capital city of Cabo Delgado Province, it is widely held that the population has doubled from the beginning of 2012-2013. As coal and natural gas production ramps up, and the construction of the railroad out of Tete and the LNG plant in Palma is completed, it is very likely the populations in these regions will continue to experience continuous, significant expansion.

As migration of international foreigners and Mozambicans from the capital and regional areas increases, the local local population impacted by mining and hydrocarbon operations will increasingly experience significant social, resource, and financial stress. Demand of social services and resources already exceed the absorption capacity of the community. Should monitoring, engagement, and timely mitigation responses not be taken to manage the likely externalities listed below, negative impacts on human capital and social and financial development of the community will occur.

Inflation of local food prices:

Rapid inflation of food prices is a significant problem in both Tete and Cabo Delgado. In Pemba, 1kg of tomatoes costs approximately 160-200 meticals (USD$5-7) in the market.[154] High inward migration has resulted in increasing demand that exceeds supply. Poor quality infrastructure limits market linkages, restricting regional producers and suppliers – resulting in both missed market opportunity and potential food price inflation mitigating activity. The unchecked purchasing practices of service companies that supply catering to the extractive companies has also contributed to establishing a "buyers market" which has caused an upward pressure on food prices.

> *"Price stability is particularly important to poor people, for whom food is the most important component of their expenditure."*[155]
>
> *Poverty Reduction Action Plan*

In developing countries, daily energy intake for vulnerable populations is often comprised of food baskets consisting of very few food items.[156] Minimal increases in staple food prices can magnify impacts on household purchasing power and overall food consumption. Lack of food has historically been closely associated with social unrest and conflict.[157] The price of food is a delicate issue in Mozambique and intrinsically linked to socio-political instability. During the food price spikes in 2008, riots broke out in Mozambique and 48 countries.[158] In 2010, food riots left over six people dead and 400 people injured when the government tried to increase the price of bread by 30%.[159] The state's limited capacity to respond to more systemic, complex problems like food insecurity is apparent in rural areas that are geographically further from government purview and tend to be poorer and more dependent on agriculture for both food and livelihoods.[160] Thus, the growing challenges to ensuring food security creates high risks of civil unrest in Tete and Cabo Delgado.

Additional human capital, environmental, infrastructural, and economic impacts:

There are a host of potentially detrimental negative externalities that may transpire in Tete and Cabo Delgado. As common to "boom town" effects in other extractive industry sites, as populations swell and low access to health services prevail, high risk behavior and employment (such as prostitution) can increase the transmission rate of HIV/AIDS and other sexually transmitted diseases. Concern is already being voiced in Tete where prevalence is suspected to be increasing.

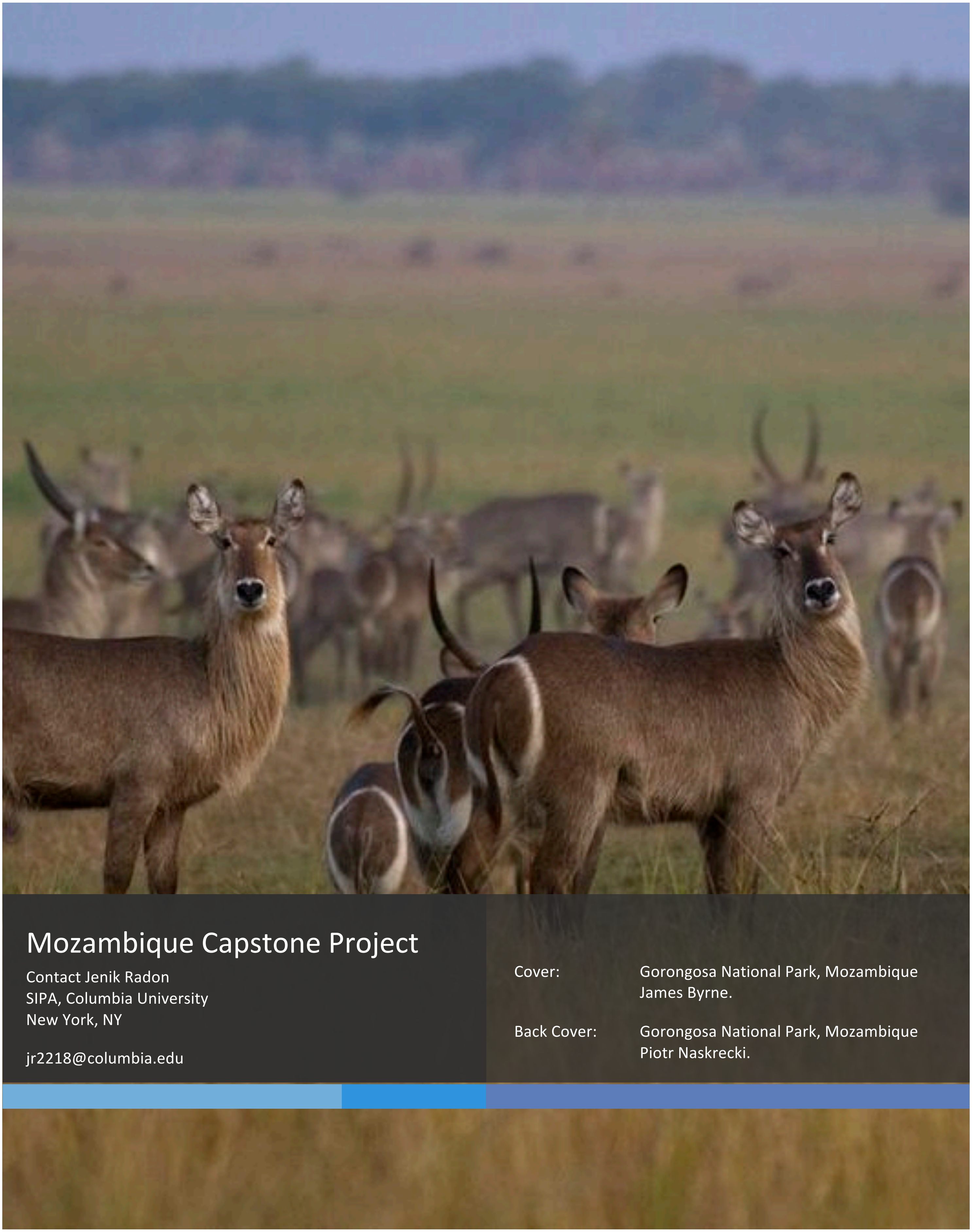
In Cabo Delgado rapidly increasing demand on fisheries, in addition to expected impact exploration and production operations may have on fishers, could outstrip restock rates. Given fisheries is a primary form of livelihood, as well as critical source of nutrition and protein, a reduction in sources of key livelihoods and protein will likely negatively impact human capital development. In both Cabo Delgado and Tete, inward migration, increased stress on the environment, and changes in land tenure practices may result in severe land degradation. Overall, increased and visible income disparity can have major repercussions for social relations in and between communities.

2.3.5 Conclusion

When regulated and implemented as part of a structured national development strategy, extractive industry FDI can contribute to poverty reduction and prosperity at the national and local levels in developing countries. Communities are highly exposed to the positive and/or negative externalities that result from an extractive industry project. While employment and some social services are made available to a limited percentage of the community that is employed by the company or its contractors, the repercussions of extractive industry activities and externalities must be monitored, communicated, and mitigated. Therefore, extractive industry FDI that does not manage community expectations and translate positive microeconomic impacts at the local level can decrease local economic growth, increase food prices, magnify food insecurity and exacerbate the weaknesses of fragile communities.

Notes to Section 2

[126] *United Nations Conference on Trade and Development: Mozambique Investment Policy Review* (United Nations, 2012).
[127] *Ibid.*
[128] *Ibid.*
[129] *Ibid.*
[130] One example is a survey conducted by Barrick Gold from 2006-2007. Entry-level wages offered in South America is between 130% and 215%, significantly higher than the minimum wages offered in the country. *See (Increasing Local Procurement by the Mining Industry in West Africa* (World Bank, January 2012).
[131] *Increasing Local Procurement by the Mining Industry in West Africa* (World Bank, January 2012).
[132] Dr. Don Hubert, *Resources, Revenues, and Social Development: Prospects and Challenges for the Extractive Sector in Mozambique* (UNICEF Mozambique, September 2012).
[133] Ibid.
[134] *Republic of Mozambique Poverty Reduction Action Plan: PARP 2010-2014* (International Monetary Fund, May 3, 2011).
[135] *Ibid.*
[136] Michael Hackenbruch and Jessica Davis Pluess, *Commercial Value from Sustainable Local Benefits in the Extractive Industries: Local Content* (BSR, March 2011).
[137] *Local Content Strategy* (IPIECA, 2011).
[138] *Republic of Mozambique Poverty Reduction Action Plan: PARP 2010-2014*.
[139] *Enabling Poor Rural People to Overcome Poverty in Mozambique* (IFAD, February 2012).
[140] *Mozambique: Country Assistance Strategy 2009-2014* (USAID, 2009).
[141] *Enabling Poor Rural People to Overcome Poverty in Mozambique*.
[142] *Mozambique: Country Assistance Strategy 2009-2014*.
[143] *United Nations Conference on Trade and Development: Mozambique Investment Policy Review*.
[144] Ibid.
[145] Ibid.
[146] Ibid.
[147] Ibid.
[148] Ibid.
[149] *Mozambique: Country Assistance Strategy 2009-2014*.
[150] Ibid.
[151] *United Nations Conference on Trade and Development: Mozambique Investment Policy Review*.
[152] Ibid.
[153] Hubert, *Resources, Revenues, and Social Development: Prospects and Challenges for the Extractive Sector in Mozambique*.
[154] As of March 2013
[155] *Republic of Mozambique Poverty Reduction Action Plan: PARP 2010-2014*.
[156] World Food Program, "The Market Monitor: Trends and Impacts of Staple Food Prices in Vulnerable Countries" no. 16 (July 2012).
[157] *Food Security and Conflict* (World Bank, October 2010), available at: http://www.indiaenvironmentportal.org.in/files/food%20security%20and%20conflict.pdf.
[158] Henk-Jan Brinkman and Cullen S. Hendrix, *Food Insecurity and Violent Conflict: Causes, Consequences, and Addressing the Challenges* (World Food Program, July 2011), available at: http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp238358.pdf.
[159] "The Angry Poor," *The Economist* (September 9, 2010), available at: http://www.economist.com/node/16996835.
[160] *Food Security and Conflict*.



Mozambique Capstone Project

Contact Jenik Radon
SIPA, Columbia University
New York, NY

jr2218@columbia.edu

Cover: Gorongosa National Park, Mozambique
James Byrne.

Back Cover: Gorongosa National Park, Mozambique
Piotr Naskrecki.