The Local Content and Value Addition in Mining Oil and Gas Sector in Mozambique: The Context and Resource Governance

Working Paper - WP-2021/3
November 8, 2020

Author

Salvador Mondlane Junior

Dr Salvador Mondlane Júnior is a Mozambican professor of Economic Geology and Economic Evaluation of ore deposits at the Eduardo Mondlane University. He is the director of Master Course in Mineral Resources Management at UEM since 2012.

About the series:

The United Nations University-Institute for Natural Resources in Africa in collaboration with the University of Warwick's Centre for the Study of Globalization and Regionalization, University of Leiden-African Studies Centre, Universidade Eduardo Mondlane and University of Ottawa's Centre on Governance undertook a joint United Nations Economic Commission for Africa funded project on "Engaging the Private Sector for Inclusive Extractive Industries and Sustainable Value Chains in Africa." The project was carried out through the study and analysis of four country case studies: Ghana, Tanzania, Zambia and Mozambique. The two-year study examined and prioritized backward linkages in Africa's mineral extraction and natural resources sectors, contributing to on-going efforts at answering the central problematic of how to leverage the latter industries to support, encourage, facilitate, and drive broad-based and sustainable economic growth and development, both transitionally and in key case study states.

Abstract

Mozambique is endowed with significant mineral and gas resources which makes the country rank fifth in the world in terms of natural gas resources (in situ). This has resulted from the recent gas discoveries in the West Indian Ocean that amount c. 200 trillion cubic feet (TCF) (INP, 2016, internal report), while considerably small field with c.5 TCF produces natural gas and light condensate since 2004 in the Pande Temane area in Inhambane Province (South Mozambique). The country also has significant coal reserves in Tete Province, central part of Mozambique, from where production reached the historic record of 19 million tonnes in 2017 (MIREME, 2017) . Other resources in which Mozambique is a "game changer" in the world market include rubies (producing one of the best ranked rubies in the market which are compared to the Burmese rubies in quality)[2], graphite with world class reserves and two mines already in production (the Ancuabe Graphite Mine producing 6,000 tones of graphite and Balama Graphite Mine producing 180,000 tones), and heavy minerals sands (ilmenite, rutile and zircon) also in production at large scale (Kenmare produced 1.4 Mt heavy mineral concentrate in 2016)[3]. It is under this resource boom that the country has been aiming to generate endogenous growth based on increased domestic content for economic diversification and industrialization. The country is in the late stages of approving its Local Content (LC) Law which will strategically regulate and foster domestic value addition and local industry diversification. It is expected that LC Law will constitute an opportunity for good governance of natural resources by creating spaces for local participation, better resource rent distribution, local supply chain development, technology transfer, and employment generation in the country. The paper discusses the role of legislation in leveraging domestic and regional industrialization by increasing participation of nationals in the extractive industry. The paper also looks at the key guiding principles of local content and industrialization in the context of mineral and gas resource economy and elaborates on key recommendations.

Acknowledgement

The author would like to acknowledge the organizations and individuals that provided information, for their time and valuable information on LC in Mozambique, are all specially thanked.

[1]MIREME, Annual report, 2017

[2]https://www.ajsgem.com/articles/mozambique-ruby.html (accessed in November 2017)

[3]http://www.kenmareresources.com/~/media/Files/K/Kenmare-Resources-PLC/pdf/Annual%20Report/ar-2016.pdf (accessed in December 2017)

I. Introduction and Context

The population of Mozambique is reported to be about 28.8 million inhabitants in 2017[4]. Approximately 70% of the population lives in rural areas and the country's economy is based on family agriculture, fishing, tourism, production of power, services, and mineral resources.

The gross domestic product (GDP) has been growing at an average of 7% per over the past decade[5], turning Mozambique into one of the countries with the best economic performance in Sub-saharan Africa. Mozambique's economic growth has been driven by important foreign direct investments (see fig. 3) in the areas of infrastructures, agriculture and, more recently, natural resources[6]. The country became a world-wide destination of reference for the mining and hydrocarbon industry as result of the availability of detailed geological information published in 2006.

The Mineral Resource Base of Mozambique

In 2011, the extractive sector accounted for around 1.7 percent of Mozambique's GDP (Fig. 1). This has the potential to grow to 15 percent by 2020. The International Monetary Fund (IMF) estimates that the government's share of profits from the extractive sector could contribute to about US$3.5bn a year, or 18 percent of GDP, by 2025.

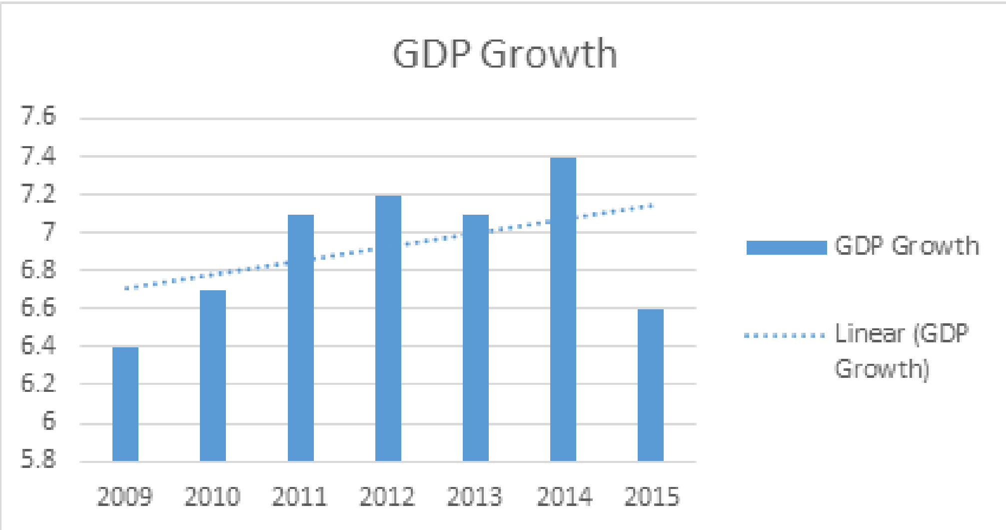

Figure 1. GDP of Mozambique and trends from the last 6 years (Source: Data INE 2016)

The impact on Mozambique's economy from the development of extractive industries – both light natural gas (LNG) and coal – will accelerate dramatically, from a current low contribution of just 7 per cent of total exports in 2011 and accounting for roughly 1.7 per cent of the GDP (Figure 2)[7]. Due to the fact that most mining and gas projects are still in the exploration phase, as well as tax exemptions or long term agreements which resulted in prevailing of purchase prices that are below-present market prices granted to early developers such as Sasol, the industries' contributions to revenue remains small. The IMF estimated that for the period 2008–10, revenues from mineral and gas resources in Mozambique averaged 0.3 per cent of GDP and 1.8 per cent of total revenues, with a moderate increase between 2010 and 2015 to an average of 3.7 per cent of the GDP (Figure 4). In terms of employment, the capital intensive nature of the industry means that its direct contribution to job creation is extremely limited, at less than 0.5 per cent of formal sector jobs[8]. According to donors, this is aggravated by underdeveloped local supply networks, which limit linkages that might create indirect jobs.

[4]INE, 2017a. Provisional Census result report
[5]INE, 2017b. Annual statistical report
[6]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique
[7]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique
[8]http://siteresources.worldbank.org/EXTNWDR2013/Resources/8258024-1320950747192/8260293-1320956712276/8261091-1348683883703/WDR2013_bp_Jobs_and_Welfare_in_Mozambique.pdf (accessed in January 2018)

Mozambique's economy and trade is expected to change in the next decade, when LNG will likely form the bulk of government revenue, exceeding contributions from overseas development assistance (ODA) and early-stage mega projects (more than 500 million USD Investment), such as the Mozal aluminium smelter. Until 2023, the contributions to GDP from coal and gas are expected to grow by 2 percentage points per annum. When LNG production reaches near-full capacity, around 2023, LNG exports will represent almost 30 per cent of GDP and nearly 50 per cent of total exports. By 2030, the IMF projects that revenue from both LNG and coal will constitute around 25 per cent of all government revenue or 9 per cent of non-coal, non-LNG GDP[9].

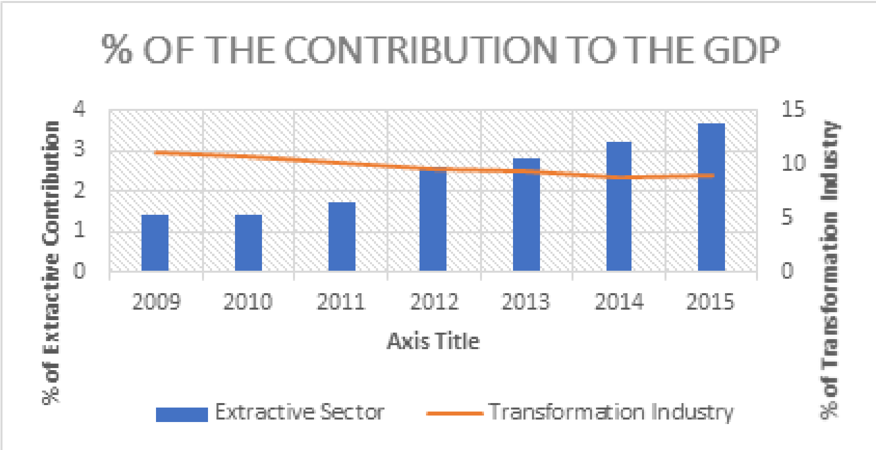

Figure 2. Contribution to the GDP from the extractive sector and transformation industry (Source: Data INE 2016)

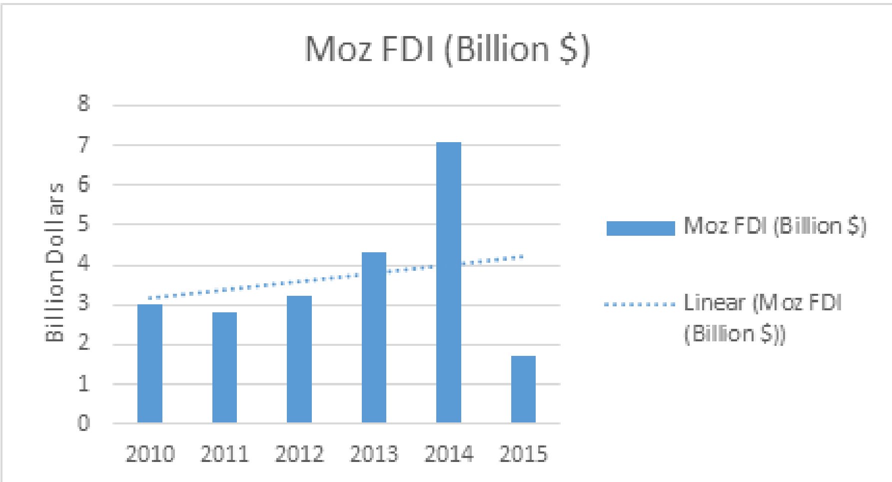

Figure 3. Illustration of the FDI in Mozambique during the last 5 years (Source: Data INE 2016)

As such, natural resources, especially minerals, are the biggest natural capital held by the country, whose sectoral industrialization could contribute to the economic transformation and growth of Mozambique's gross domestic product. Figure 4 shows the development of investments in the mineral resources sector between 2004 and 2013, amounting to a little more than 14 billion USD.

The development of extractive industry enforces adjustments to legal instruments that govern the sector as to make them more consistent and consentaneous to the sector dynamics. In this view, and with the objective of harnessing the mineral resources sector as one of the primary contributors for the economic development of the country, laws related to mines and petroleum, including respective forms of taxation and fiscal benefits were reviewed and approved by the Assembly of the Republic in 2014 and 2015[11]. The Government of Mozambique has equally approved policies and strategy for the mining resources, including the Regulation on Resettlement Resulting from Economic Activities[12] and Policies of Corporate Social Responsibility for the Extractive Industry[13] in 2012 and 2014, respectively.

[9]http://clubofmozambique.com/news/mozambique-sees-fragile-economic-growth-recovery-imf/ (accessed in January 2018)
[11]Decree no. 28/2015 Specific taxation and benefits for the Mining Activities approved on the 28th of December 2015 as a consequence of the new Mining Regulations enacted by the Decree 31/2015.
[12]Decree 31/2012. Regulation on Resettlement Resulting from Economic Activities
[13]Decree 21/2014 Approving the policies of Corporative and Social responsibility for the extractive industry

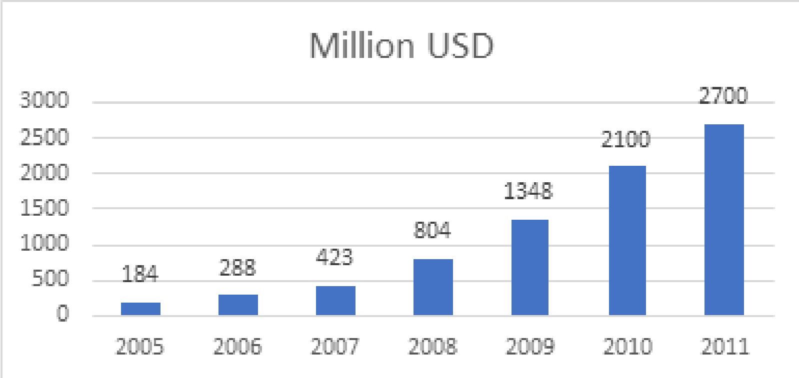

Figure 4. Development of the investments in the Mineral resources sector in Mozambique.[10]

More recently in 2016, aiming to ensure an appropriate and efficient management of the resources and the safe and efficient accomplishment of petroleum operations, the government approved by decree law terms and conditions that include conception, construction, installation, ownership, financing, operation and liquefaction of the natural gas from areas 1 and 4 in the Rovuma Basin, North of Mozambique. This legal instrument is expected to guide the development of the natural gas industry in this area. The main laws for the mines and petroleum include Law no. 20/2014, of 18 of August (Mines Law), Law no. 21/2014, of 18 of August (Petroleum law), Law no. 27/2014 of 23 of September (Specific regimen of taxation and tax benefits of the petroleum operations) and Law no. 28/2014, of 23 of September (Specific regimen of the taxation and tax benefits of the mining activity).

Key aspects emanating from the new Law of Mines include: increasing period length for mining permits, including for the mining pass which is extended to a valid period of 5 years, and it benefits the local communities where the mineral occurs. The law brings innovation on the Mining Certificate that is now exclusively for Mozambicans. The Mining Certificate´s validity period has been extended from 2 years to 10 years. The law introduces two types of permits, for 'Mining Treatment' and for 'Mining Processing,' so as to stimulate value addition at national level, promoting Mozambique's domestic market and, ultimately, to maximizing profits for the country from this sector.

Continuing, the Law establishes that a 2.7 percent of revenues generated from tax collection in the extractive industry must be channelled, through the State budget, to the direct benefit of host communities. It also safeguards the acquisition, by the mining concessionaires or holders, of goods and/or services for Mozambican companies. The same law also introduces the obligation for compensation in a transparent and fair way to families or communities (community development agreements) impacted by any project. Another innovation is the founding of the National Institute of Mines, as a regulating authority for mining activity, and the establishment of the Higher Authority of Extractive Industry as an entity with administrative, legal and financial autonomy, to be under the Cabinet.

Juxtaposed against this, the key aspects from the Petroleum Law include the clear definition of the role of State, the definition of the National Petroleum Institute as the regulating entity responsible for management and promotion of petroleum operations, definition of guidelines on public and private sector participation in prospecting and exploration of the petroleum products and their derivatives. It promotes national interests by fixing that hydrocarbon-related companies must be registered on the Mozambique Stock Exchange, under the terms of applicable Mozambican legislation. It establishes that a percentage of revenues generated from the production of petroleum will be channelled, through State Budget, to the benefit the host communities. It equally requires that the companies prioritize Mozambican goods and/or services, i.e. if the price difference is up to 10%, the company must favour the local provider (provided that the quality is the same). The Law establishes that at least 25% of petroleum and natural gas extracted and processed in Mozambique shall be allocated to the domestic market.

[10]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique

Mozambique also has a number of policies and strategies, including the Policies and Strategy of Mineral Resources (Resolution 89/2013), Policies on the Company Social Responsibility in the Extractive Industry of Mineral Resources (Resolution 21/2014), Strategy on the Use of Natural Gas, Strategy for Training and Capacity Building of Human resources for the Sector of Mineral Resources, and a Master plan for Natural Gas, which guide the extractive sector as a whole. All strategies and policies anchor ownership of mineral resources in the State. Indeed, these policies broadly required that natural resources must benefit, firstly, the economic and social development of the country and Mozambicans, while being explored in a sustainable and environmentally-friendly way.

A key instrument worth exploring further is the Policy on the Corporate and Social Responsibility (CSR) for the Extractive Industry, which aims to maximize the benefits mineral resource exploration and extraction for host communities. The policy is anchored in the following principles:

- Human Dignity, Social Stability and Right to Progress: Activities regarding the exploitation of mineral resources must be lead on the basis of permanent respect for dignity and human rights, the right to social stability of host communities, and the right to economic and social progress of all citizens;
- Law, Transparency and Accountability: Activities regarding the exploration of mineral resources must be lead in accordance with the law, on the basis of decisions taken in a transparent way and in an environment of accountability for interested stakeholders;
- Justice and Equity: The management of mineral resources must ensure respect for the legitimate rights, interests, and priorities of all citizens, to achieve balance in the share of responsibilities and benefits for all citizens involved.
- Gender Equity: In the process of management of mineral resources, men and women have equal rights and opportunities for access and use of these resources, participation in the related-decision making, as well as share of benefits resulting from their exploitation;
- Consultation and Participation: All people who can and may be affected, directly or indirectly, due to the activities of the extractive industry must be preemptively informed and consulted;
- Integration and Complementarity: Programs on social responsibility of extractive industry must be fit and complement plans and programs of social, economic, and institutional development, giving priority to areas where these operations cause impact, in order to continuously improve the life conditions of communities;
- Environmental Responsibility and Share of Benefits: Corporate social responsibility must include respect for the principles of sustainable environmental management, and must ensure a share of benefits resulting from the exercise of mining activity with designated communities;
- Valorisation and Respect for the Culture, Customs, and Local Values: Programs on CSR must include actions that value and promote respect for the culture, customs and values of local communities in the areas where the mining projects operate or are implemented;
- Integration with the Government Policies and Strategies: The implementation of CSR policies must be made in order to integrate and harmonize them with other applicable policies, strategies, and legislation;
- Alignment with the International and Regional Norms, Conventions and Strategies: Interpretation of CSR policies must be made so as to align them with regional and international norms, conventions, and strategies; and,
- Monitoring and Evaluation: Programs on CSR must be subject to monitoring and evaluation.

In the context of good governance and transparency in Mozambique's extractive sector, the Government formally joined the Extractive Industry Transparency Initiative (EITI) in May 2009. The country seeks to improve its existing internal instruments of promoting good governance, including transparency, accountability, and prevention of corruption. For implementing the principles and criteria of EITI, a Committee of Coordination was established and is headed by the Ministry of Mineral Resources and Energy. This committee is comprised of three parties that include the government, extractive industry representatives, and civil society.

II. Mineral Resource Production in Mozambique

Presently, Mozambique is world leader in the production of rubies, while as mentioned, coal production has reached the historic record of 19 million tonnes in 2017[14], showing fast growth from 5.8 million tonnes in 2013 as result of improvement in port and rail infrastructure, especially the opening of the Nacala Corridor Line, linking Moatize and the deep-water Port of Nacala in the North of Mozambique. Since 2013, the country has produced 2 million tonnes of heavy mineral sands concentrate of mainly ilmenite, zircon, and rutile[15]. The country also produces colour gemstones, tantalite and small quantity of gold.

Mozambique contains a vast potential of mineral resources that include coal, natural gas, gold, titanium, non-metallic minerals, among others. A brief general overview of potential mineral, in chronological order, is shown in the table below.

Table 1. Main geological units and potential resources in Mozambique[16]

Geological Map Unit	**Resources and potential**
Archaean Greenstone belt of Mutara-Manica	Gold, copper, nickel, asbestoses and ores of iron and small bauxite deposits. Other areas with bauxite occurrences are Monte Salambídua and Monte Mauze in Tete and Zambézia Provinces, respectively.
Metasediments of Gairezi and Umkondo Groups	Iron, copper, limestone/calcareous, graphite.
Pegmatite in Proterozoic sequences in Zambezia and Nampula Provinces	Rare earths minerals and semiprecious stones, minerals of beryl, mica, feldspar, quartz and kaolin group.
Super Group of Karoo	Coal, heavy minerals.
Mesozoic fractures in association with Karoo and Cretaceous carbonatites intrusions.	Fluorite
Cretaceous formations of Grudja (Rovuma and Mozambique Basins)	Natural Gas
Rovuma basin (offshore)	Oil
Formations of Cheringoma (Eocene), Temane and Jofane (Oligocene-Miocene)	Limestones
Limpopo and Singédzi Rivers, Gaza Province	Alluvial microdiamonds
Formation of Jofane	Sedimentary Deposits of phosphorite, guano

As well, new mines have been opened and new projects have been initiated and developed as described next:

Table 2. Main operating mines, including location, investment, and installed capacity

Name	**Location**	**Mineral**	**Investment in Millions of USD**	**Installed Capacity (t/a)**
Moma Mine	Larde, Nampula	Heavy Mineral sands	700	1.200.000
Songage, Angoche Mine	Angoche	Heavy Mineral sands	30	90.000
Moatize Mine	Moatize, Tete	Coal	1.880	11.000.000
Benga Mine	Moatize, Tete	Coal	1.200	10.000.000
Chirodzi Mine	Changara, Tete	Coal	180	6.000.000
Moatize- Chipanga XI Mines	Moatize, Tete	Coal	166	4.000.000
Balama Project	Balama, Cabo Delgado	Graphite	87,98	165.000
Ancuabe Project	Ancuabe, Cabo Delgado	Graphite	9	60.000

Source: MIREM/ Different feasibility Studies of the mines.

[14]MIREME, Annual report, 2017
[15]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique
[16]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique

Table 3. Main mine projects, including location, investment, and expected capacity[17]

Name	Location	Mineral	Investment (Millions of USD)	Installed Capacity (t/a)
Chinde Project	Chinde Zambézia	Heavy sands	130	196.000
Minas de Revubue Project	Moatize, Tete	Coal	746	7.000.000
Kokwe Project	Moatize, Tete	Coal	757	7.200.000
Zambeze Project	Moatize, Tete	Coal	3.300	10.000.000
Nkondezi Coal Project	Moatize, Tete	Coal	627	7.000.000
Goma Project	Moatize, Tete	Coal	222	4.000.0000
Chiuta Project	Chiuta, Tete	Iron	1.142	4.700.000
Moebase Project	Pebane, Zambézia	Heavy sands	601.2	1.028.000

III. Mineral Investment Undertaken in Mozambique

The total investment made in Mozambique's mining sector from 2000 is estimated to be 7,12 billions USD, of which 6,99 has been made the last ten years. State revenues collected from production tax, surface tax, and IRPC[18], (in thousands of dollars), coal projects in Tete (Moatize, Benga, Zambeze, Changara, Revúbue, Chipanga XI) are illustrated in the table:

Table 4 presents the revenues (production tax, IRPC and Surface tax) of the projects of Moatize, Benga, Zambeze, Changara, Revúbue Chipanga XI:

Table 4. Revenues from mining and workforce directly employed[19]

Year	2010	2011	2012	2013	2014
Revenues (MIL USD)	100	600	68.988	106.707	156.297
Workforce	13000	13148	+- 10000	4320[20]	4320

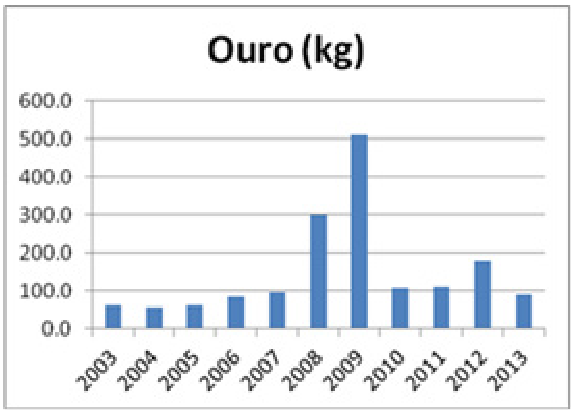

Figure 5: Global gold production for 10 years.

Natural Gas

Mozambique has become an important player in the upstream industry of mining oil and gas (MOG), anchored in recent discoveries of over 20 billion tonnes of coal (cocking and thermal) and total reserves in place of around 180 to 190 TCF of natural gas[21]. Mozambique's natural gas reserves are the largest in Africa, ahead of Nigeria's 180 TCF, Algeria's 159 TFC, Egypt's 77.2 TCF and Libya's 54.6 TCF (Figure 8 below). Except for Sasol, which has been producing natural gas and light condensate since 2004, natural gas exploitation is expected

[17]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique
[18]Corporate Revenue Tax (in Portuguese)
[19]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique
[20]The reduction in labour resulted from the end of the development phase of many projects. The production phase does not require many works due to high mechanization of the industry
[21]INP 2017. Annual report (ined)

to start by 2019-2021. Much of Mozambique's LNG production today stems from 5 TCF reserves in Pande and Temane onshore fields in the South of the country. The production at Sasol's Pande and Temane onshore fields in Inhambane province stood at 135 billion cubic feet (Bcf) in 2011, only 18 Bcf of which were used for domestic consumption[22]. The present production capacity is 183 MGJ/A, and the royalty gas is equivalent to 9 MGJ/A. The Pande and Temane fields produced 1.140.675.883 GJ (Giga Joules) and 4.835.689 Billion Barrels (bbls) of condensate between December 2004 and 2013[23].

The recent dynamics in upstream gas exploration is such that the consortium (Galp Energia (10%); KOGAS (10%); ENH (10%, carried through exploration phase); CNPC has 20% indirect participation via 28.57% stake in Eni East Africa) led by ENI (70%) holder of licence for Area 4 (Rovuma Basin with 70 – 80 TCF)) has already secured the Final Investment Decision (FID) and construction of floating Liquified Natural Gas (LNG) plan is in progress. While the consortium (Mitsui E&P Mozambique Area (20%); Bharat Petroleum Resources Ventures (BPRL) Mozambique (10%); ONGC Videsh (20%); PTT Exploration & Production (PTTEP) (8.5%); ENH (15%, carried through exploration phase)) led by ANADARKO (26.5%) and holder of Area 1 (Rovuma Basin with 85 - 95TCF reserves) has recently initiated the Resettlement programme in Palma, a significant step toward the implementation of the onshore LNG plants[24].

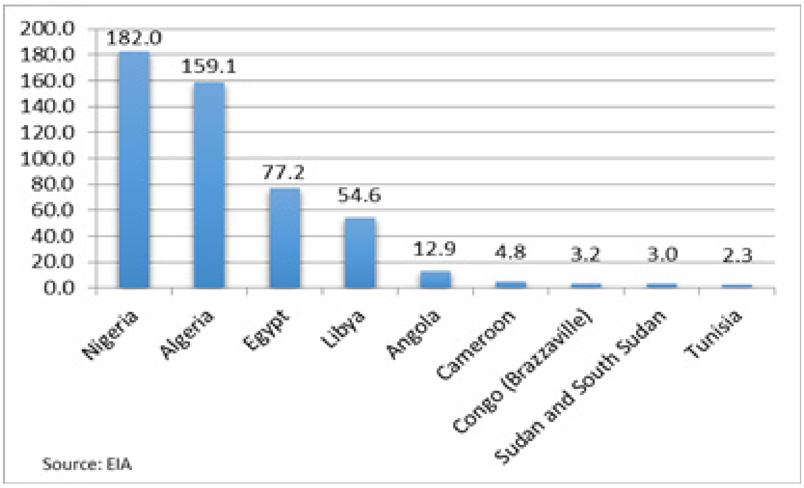

Figure 6. Distribution of Natural gas reserves in Africa (TCFs). Source: US Energy Information Administration (EIA)[25]

As noted, Mozambique is also an important player in the mining of minerals, especially coal (cocking and thermal) since 2009 and presently there are four large operations, namely, Vale, ICVRL, JSPL and Beacon Hill (Minas de Moatize). The production of coal in 2011 accounted for 0.1% (6.3 Mt) of world's production, and it is expected to contribute in at least 1% by 2017 – 2018 (BMI forecast-2013[26]).

The production of gas has been growing as well as the domestic consumption, especially with the use of the natural gas in the downstream Industry and power generation. In total, approximately 6.7 billion American dollars were invested in the exploration of hydrocarbons, from which 5,8 billion American dollars in Rovuma Basin and 945 million American dollars in Mozambique Basin[27].

The Mozambican State participates in the sector of Hydrocarbons through the National Hydrocarbons Company (ENH). The ENH represents State interests in the area of hydrocarbons. The main objectives of ENH include exploration, research, development, production, transport, transmission and marketing/trading of hydrocarbons and its derivatives/ by-products.

[22]Centro de Integridade Publica (2013)"Pande Temane Gas Exports to South Africa, Edition no 17/2013, Maputo
[23]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique
[24]MIREME, 2014. The 10 YearsRreport of the Ministry of Mineral Resources in Mozambique
[25]Petroleum Africa (2014) "Mozambique to See Oil Production in 2014," www.petroleumafrica.com January 2014.
<www.petroleumafrica.com/mozambique-to-see-oil-production-in-2014/>
[26]https://www.bmiresearch.com/ (accessed in December 2017)
[27]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique

IV. Can LC Policy Leverage Domestic and Regional Industrialization?

What is Local Content?

The definitions of a "local content policy" vary widely depending on the context and user. This paper defines it broadly as a policy governing foreign investors or investments that aims to more actively embed foreign investment in, and catalyse spillovers into and linkages with, the domestic economy. This definition includes, but is not limited to, measures expressly requiring or incentivizing use of local goods, services, and labour. It can also include measures such as those requiring foreign investors to incorporate firms in the host economy, or to make intra-firm expenditures in the host economy[28].

In Mozambique, the LC is narrowly defined and refers to the percentage of a product whose added value originates domestically (within the country), while a more common definition of LC, sometimes referred to as Local Procurement (LP), is the purchasing of goods or services from a local supplier[29]. In Mozambique, other compelling legislation have come into play when one is to define local supplier. There is not yet a clear definition whether an international supplier and registered in Mozambique qualifies as local supplier or an element of ownership from the Mozambicans is to be equated.

There is a generalised understanding that a specific legislation on LC will provide a better space for LC and will minimise the ambiguities related to different interpretation of Local Content. For example, Mozambique is developing a local content and value addition (LCVA) law. A preliminary draft of the LCVA law and contained the following key directives:

The Local Content Law aims at establishing:

- a mandatory preference for products and services containing a certain portion of local content;
- maximization of added value and job creation through the use of national capacities, products and services, companies, as well as the use of the entire value chain of domestic products;
- develop local capacity through training, transfer of skills, knowledge and technology through active research and development programs;
- Promote domestic industry and production; and,
- Establish the rules for consideration, in first place, of qualified Mozambicans for training and employment.

In addition, the draft law sets an obligation to observe the rules on LC in the acquisition of goods and services, pursuant to the terms to be regulated: goods shall be produced in whole or in part with the use of domestic means of production; services shall be provided in whole or in part by Mozambicans and in accordance with the terms and measures to be regulated. It is expected that the draft law will provide exceptions to the above depending on specificities of each sector.
The draft LCVA Law foresees the establishment of a Commission for Local Content Affairs, with some regulatory and commercial roles. The Commission will:

- Set procurement criteria and others on bidding;
- Approve plans for procurement of goods and services submitted by companies;
- Set sector-specific targets for increasing local content in goods and services; and,
- Approve other plans of companies that are related to local content.

[28]GIZ, 2016. Space for Local Content Policies and Strategies: A crucial time to revisit an old debate.
[29]Kaplan, Z. 2013 – Policy option for strengthening local content in Mozambique; SPEED – USAID/Mozambique.

From the draft law on local content and value addition, it is clear that for the Government of Mozambique, a priority sector will be the extraction of hydrocarbons, oil and gas. The draft Local Content Law aims at establishing a mandatory preference for products and services containing a certain portion of local inputs (content); maximization of added value and job creation through the use of national capacities, products and services, companies, as well as the use of the entire value chain of domestic products; develop local capacity through training, transfer of skills, knowledge and technology through active research and development programs; promote domestic industry and production; establish the rules for consideration, in first place, of qualified Mozambicans, for training and employment. The private sector is moving fast towards complying with LC law and are approving their LC strategies. This is not very good as the LC strategies may influence the LC law that the country is incubating. The consulted communities are highly in agreement with LC law and raise high expectation on the possible benefits to the communities.


https://pixabay.com/photos/oil-oil-rig-industry-oil-industry-3629119/

V. The Expectation of a Resource Rich Country Versus Investors

While the draft law on local content and value addition being pursued by the government shows high expectations that mineral resources can be leveraged for industrialization of the country, companies are already implementing their own strategies in this regard (ACET study, 2016). A practical example comes from Sasol, which has launched its LC strategy in 2016, while ANADARKO is in the process of preparing its own LC. While this is positive on one side, because it shows companies' commitment to LC, the government might opt simply to emulate the private sector's approach, which may not hold the best interests of the country.

On developing general policy, strategy, legislation, and a conducive environment, Mozambique's definition on Local Content is considered adequate by the stakeholders. The main reasons for emerging of local content policies include government's strategy to harness the resources for the benefit of the Mozambicans on one hand and, on the other hand as a result of pressure from the SMEs and local private sector that claim space in the exploitation and beneficiation of Minerals Oil and Gas[30]. In this context, the government has been aiming to induce demand and consumption of local goods and services through legislation, however, there is general understanding that the government, in this regard, is lagging behind industry. Interviewees (stakeholders) recommended that the LC law be approved as soon as possible. That said, the LC law in preparation has elements that may not be adequate for the reality of Mozambique's context, including the mandatory 25% of domestic gas found in the Petroleum Law of 2014 for a country without consumption capacity. Thus, it will be very difficult to implement and enforce it.

VI. Natural Gas Value Chains and Contribution to Regional Integration

The OECD expects Mozambique to become the fourth-largest exporter of liquefied natural gas globally and second-largest in Africa after Nigeria when the Rovuma gas field starts production by 2021[31]. There is opportunity for fast and sustainable industrialization of the region around Mozambique by countries working together rather than competing for FDI. A regional approach is described in the SADC Industrialization Strategy and Road Map. The SADC Strategy envisages substantial quantitative shifts in industrial structure, manufacturing production, exports, particularly those in the medium- and high technology categories, while doubling industrial employment.

A first step in this regard may be the new frontiers of gas discoveries in the Western Indian Ocean can be seen as game changers from a regional integration perspective. Recent (last 5 years) discoveries of natural gas and some indications of oil in Mozambique, Tanzania, Uganda, and Kenya constitute an opportunity for fast industrialization for these countries and constitute a great opportunity for the neighbouring countries such as South Africa, Botswana, Zimbabwe, Zambia, Malawi, and others who can participate in the value chain by accessing this natural gas and its products. Initiatives on this perspective are already being discussed; an example is a six billion dollar USD pipeline mega project between Rovuma gas field and South Africa, with branches to Zambia and Zimbabwe. This project, on its own, will promote industrialization in the entire region, where the countries receiving natural gas will have the opportunity to tap into mid and downstream value chain of natural gas (see figure 11). The opportunities for these countries will be extended to unlocking their full mineral potential development, such as the processing of chromite in Zimbabwe and downstream processing of copper in Zambia, requiring reliable electricity access and generation.

[30] ACET Study, 2016: Mozambique Local Content and Value Addition
[31] www.pwc.com/gx/en/transportation-logistics/publications/africa-infrastructure-investment/assets/mozambique.pdf

There is need to explore regional infrastructure sharing such as, the development of the Rovuma basin gas resources which occur both in Tanzania and Mozambique. Here there is opportunity for sharing the LNG facilities, port and pipeline infrastructures. This would reduce the investment required and would accelerate the regional development.

Similar regional projects can be developed between Mozambique and Zimbabwe where the processing and smelting of chromium from Zimbabwe could be done in Mozambique, so as to take advantage of availability of electricity and proximity to ports for direct export. In the guise of this objective, Zimbabwe and Mozambique signed an agreement in January 2004 which aims to eliminate tariff and non-tariff barriers while also cooperating in customs regulation and trade promotion. The agreement provides for duty free trade between these two countries with the rules of origin specifying a 25 percent domestic value added. Excluded from the arrangement are refined and unrefined sugar, Coca-Cola/Schweppes soft drinks, firearms, ammunition and explosives, motor vehicles, and cigarettes.[32] Intra-regional trade is expected to gain further importance after a consolidation of SADC free trade tariffs, which were initiated in 2008. Bilateral agreements with Malawi and Zimbabwe have already been signed to enforce the rules of origin based on a product's value[33].

Mozambique is set to make a greater contribution to regional integration, as the three regional transport corridors - Beira, Nacala and Maputo (Figure 7) - will play a strategic role in freight handling to and from the land-locked neighbouring countries of Zimbabwe, Zambia, and Malawi, Botswana, as well as South Africa. Mozambique will be positioned to facilitate the movement and connection of cross-border transport to the rest of SADC freight market.

Figure 7: Major transport corridors in Southern Africa, showing also Mozambique's three most important transport corridors, Nacala, Beira and Maputo corridors. (Source: Implementing Development Corridors[34])

Mozambique will benefit from providing infrastructure to the region for the full usage of its natural resources, which will likely generate more employment to Mozambicans and industrialization of the country.

[32]www.solidar.all2all.org/IMG/pdf/b12_trade_unions_and_ngos_response_to_epas_zimbabwe.pdf
[33]Zimbabwe - Malawi: Implemented in 1995, this is a reciprocal trade agreement, with 25 percent domestic value-added requirements. Arrangements are characterized by implementation problems, in particular with regards to rules of origin, and no dispute settlement mechanism. As of 2002 it was under re-negotiation.
[34]MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique

VII. The Local Content Relevance For Emerging Mineral Resource Economies

Space of Local Content in the Value Chain of Minerals Oil and Gas (MOG) in Mozambique

The MOG sector is argued to be a "game changer" that will facilitate the construction of a multi-billion dollar LNG plant. Together with thermal and metallurgical coal already under exploitation, these sectors have opened the possibility of developing value-added products locally, such as iron, steel, power, and a diversity of downstream hydrocarbon related industries (Figure 11). The agricultural sector also presents a number of good opportunities for agro-processing, in particular the more developed crops of cashew, cotton, and tobacco. The government strategy is currently focused on the country's industrialization. This constitutes an opportunity to strengthen the country's development framework to take advantage of global value chains.

The Government's 20-year National Development Strategy (ENDE, 2013)[35] expects to use the mineral resources as a starting point to effect a shift away from poverty reduction and towards industrialization. The plan's overall objective is: "… to improve living conditions for the population through structural transformation of the economy, expansion and diversification of the productive base. It also envisages that industrialization should bolster growth in agriculture and fishing, and in overall job creation." This strategy recognizes the importance of the MOG sector in spearheading industrialization but stresses the need to develop other sectors in order to avoid the so called "Dutch Disease".

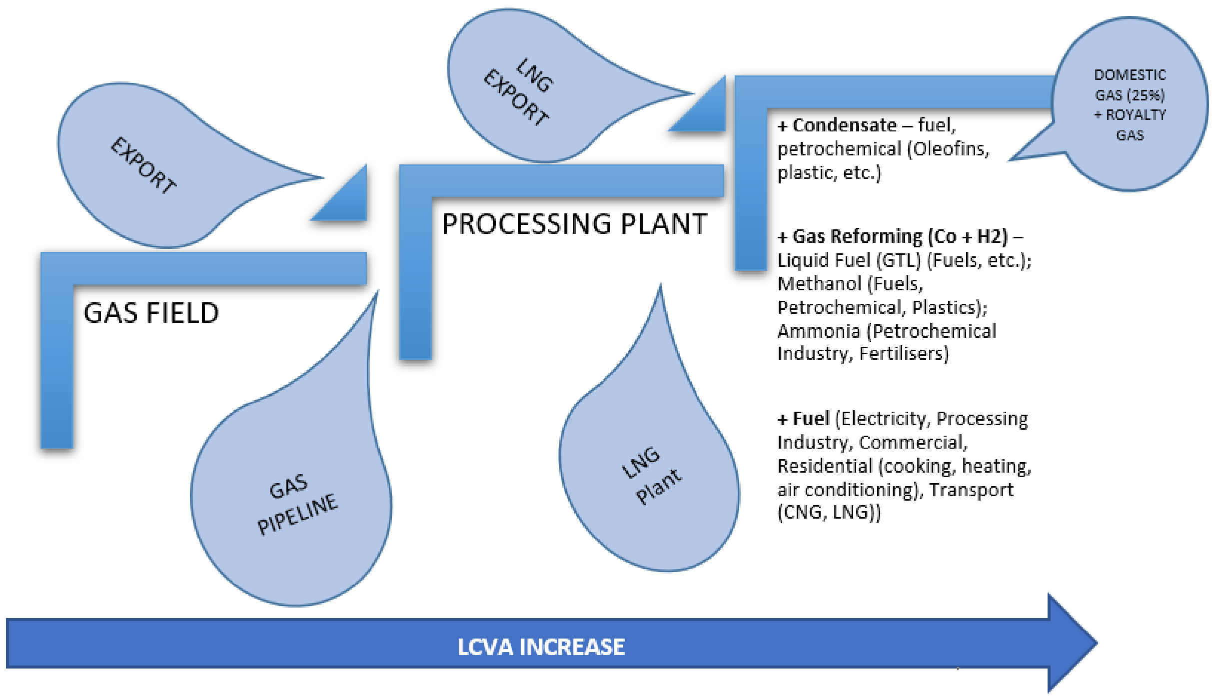

Figure 8. Gas market opportunities in Mozambique (Authors' concept, based on the GMP, 2014)

[35]Estratégia Nacional de Desenvolvimento (ENDE)', Ministério da Planificação E Desenvolvimento, June 2013

More specifically, the Gas Master Plan (GMP) gives guidance on the potential uses of natural gas from Mozambique by its use for power generation in the Maputo City and in Govuro. The GMP identified that three targeted main uses of Mozambique's natural gas include power production, use in the large-scale industry, mainly the petrochemical and fertilizer's industry and small – to medium enterprises (process heating, drying, cooking), road transport use (buses, trucks, cars, etc.), and domestic use.

The Government of Mozambique believes that natural gas constitutes the single most promising opportunity to industrialize the country, making it necessary to ensure that part of natural gas being produced (25%) in Mozambique is used for this purpose, at a price that allows the viability and competitiveness of industries.

VIII. Local Content Policies and Value Addition in Mozambique

Importance of Local Content Policies in Resource-Rich Economies

Successful examples of managing resource wealth, such as the establishment of sovereign wealth funds that can reduce volatility, create transparency, smooth the use of resource incomes over time, are not always optimal or easily implementable[36]. Using the money instead for large investments could be perfectly legitimate and consumption should be skewed toward the present in a capital-scarce developing setting, as argued by van der Ploeg and Venables (2011). In Mozambique, a debate is progressing, especially in relation to capital gains[37] from Mineral resources, where some segments of the society favour the establishment of sovereign fund while others defend that such revenues must be used to reduce budget deficit and make the country more autonomous financially. Around the world, resource-rich countries have found creative ways to leverage private extractive companies' capital and expertise to build up local industry and labour markets. The results have been mixed, varying according to the regulatory enabling environment, government vision, private sector participation, and the ability to identify the most promising opportunities on which to focus[38].

For Mozambique, the priority is and should now placed in figuring out the best way to manage new sources of revenues for the State, how to best invest this money into core pillars of the economy such as infrastructure, health, and education, and how to ensure that the tremendous investment tied to the extractive sector helps stimulate local market growth, SME development, and jobs for locals. What is known is that natural resource-based exploration and production investments do not necessarily leverage the national economy, mainly due to its enclave nature resulting in limited linkages and direct job creation.

IX. Can a Theory of Change Help in Prioritizing LC Policies?

The Theory of Change (TOC) process hinges upon defining all of the necessary and sufficient conditions required to bring about a given long term outcome. TOC uses backwards mapping, requiring planners to think in backwards steps from the long-term goal to the intermediate, and then early-term changes that would be required to cause the desired change[39]. This creates a set of connected outcomes known as a

[36]Elena Paltseva and Jesper Roine, SITE, 2011
[37]A capital gains tax is a type of tax levied on capital gains, profits an investor realizes when he sells a capital asset for a price that is higher than the purchase price. https://www.investopedia.com/terms/c/capital_gains_tax.asp#ixzz536pzMkUf
[38]Kaplan, Z. 2013 – Policy option for strengthening local content in Mozambique; SPEED – USAID/Mozambique.
[39]http://www.theoryofchange.org/what-is-theory-of-change/how-does-theory-of-change-work/ (assessed in January 2018)

"pathway of change"[40]. This is important when discussing the LC issues in the context of Mozambique where its seems that there is no clear definition of LC. Generally, most dialogue on LC focuses on defining LC as the purchasing of goods or services from local suppliers, but what constitutes "local" in this case is still under dispute. This can simply be a designation of a firm that operates in-country, or it can link back to criteria used to classify a firm as "Mozambican." In the latter case, however, there are varying requirements of what constitutes a firm as "Mozambican"; no single definition exists in Mozambique. Thus, the TOC process can assist in defining the path in which the legislation should follow. Especially because the State knows the outcome of LC as being the process in which the country can create an environment for managing its natural resources diligently, suitability and avoiding the resource curse and the Dutch Disease. This can be achieved by strengthening the local institutions, business environment, human capital skills, and the communication among interested parties, including different sector ministries, private companies, civil society, and local communities.

X. Key Guiding Principles for LC and Industrialization

Understanding the Mineral Resource Cycle and its Dynamics to Frame LC Policies

Mozambique is relatively a newcomer in the mining, oil and gas activities. After many years of civil war and political instability, Mozambique is returning to a state of political and economic stability. In the past two decades, the country has invested in generating detailed geological information. Despite the discovery of significant deposits of minerals, Mozambique's upstream potential appears to lie in natural gas rather than in oil. The possibility of utilising natural gas in regional industrial growth has brought renewed interest in Mozambique's upstream prospects by foreign oil companies.

The opportunity for industrialisation is expected from all phases of the mineral resource cycles, namely, exploration, production/exploitation, beneficiation and processing or production of final products.

Mozambique's impending resource boom has raised local content and value addition issues to the centre stage. A LC law is currently under preparation, a process that begun at the end of 2014. The draft law is under discussion at different levels in order to build consensus on a version that will both benefit Mozambique without risking external investment. The law will provide a framework for industrialization and for participation of Mozambicans in the mineral resources development activities. Government is also reviewing its tax laws in order to establish more equitable profit-sharing structures, strengthening government capacity, and clarifying the public and private sector's roles in extractive industry. Existing legal frameworks in Mozambique that relate to LC or LC issues are scattered throughout a number of policies and laws, and does not address LC in a coherent and holistic manner.

Mineral Resource Governance in the Context of LC Policies Trends and Best Practices

Mozambique has been showing positive signs on the such direction because the Government perceives that natural gas constitute the single opportunity for the industrialization of the country and that it is, therefore, necessary to ensure that part of the natural gas being produced (25%) in Mozambique is used for the industrialization of the country, at a price that allows the viability and competitiveness of industries[41]. The Gas Master Plan identified that the three main uses include the power production, use in the large-scale industry, mainly the petrochemical and fertilizer's industry and small – to medium enterprises (heating, drying,

[40] A "pathway of change" graphically represents the change process as it is understood by the initiative planners and is the skeleton around which the other elements of the theory are developed
[41] ACET Study, 2016: Mozambique Local Content and Value Addition

cooking), road transport use (buses, trucks, cars, etc.) and domestic (cooking) use. Other opportunities that can be considered for non-fuel uses include the industries for (i) Solvents in paints, lacquers, and printing inks, (ii) Lubricating oils and greases for automobile engines, and other machinery, (iii) Petroleum (or paraffin) wax used in candy, packaging, candles, matches, and polishes, (iv) Petrolatum (petroleum jelly) in medical products and toiletries, (v) Asphalt used to pave roads and airfields, to surface canals and reservoirs, and to make roofing materials and floor coverings, (vi) Petroleum coke used as a raw material for many carbon and graphite products, including furnace electrodes and liners, and the anodes used in the production of aluminium; and (vii) Petroleum feedstock used as chemical feedstock derived from petroleum, mainly for the manufacture of chemicals, synthetic rubber, synthetic fibers, drugs, detergents, and a variety of plastics.

Although all these opportunities for industrialization are available and can be developed, the experience on the enclave nature of the extractive industry still prevent the spillovers into the host economies. Attempts are being made through the design of adequate policies that include LC policies and institutions.

There are a number of success stories regarding the leveraging of natural resource wealth for industrialization and domestic development that Mozambique can draw from, including Norway and Trinidad and Tobago[42]. LC policies in Norway have resulted in oil companies sourcing more than 50% of capital inputs and more than 80% of operations and maintenance inputs from Norwegian firms. The acquired expertise has also enabled Norwegian firms to expand into export markets, with exports comprising nearly half of their sales by the early 2000s[43].

In Trinidad and Tobago's approach to LC is centred on their Energy Sector LC and Local Participation Policy Framework passed in 2004[44]. The Trinidad and Tobago model for increasing local content has relied heavily on the use of joint ventures to facilitate skill and technology transfer. One successful example of the use of joint ventures to build local capacity is that of the BP's local Trinidad and Tobago subsidiary bpTT. With a local partner, BP decided to build its Cannonball platform in Southern Trinidad with a US$10mn price premium (rather than importing). This project was used as a capacity building endeavor to transfer skills and knowledge to BP's local partner firm. Five years later, BP engaged the same local partner to build two more gas platforms at a cost savings of around US$11mn.

Another positive lesson to draw from Trinidad and Tobago's LC activity is the creation of the Local Content Chamber. This independent institution is funded by the large international oil companies and focuses on providing local suppliers training and technical assistance to help them be more competitive as service providers to these large firms.

Mozambique LC law borrows from both Norwegian and Trinidad and Tobago models and envisions diversification and promotion of industrialization by regulating the quantity of natural gas that must be added value locally and promotion of local ownership of the SMEs that can provide service to natural gas industry. The Mozambican LC law also seeks to create a high authority on LC which will oversee the implementation of related laws.

In the recent years there has been new discoveries of mineral resources in Mozambique and on the western Indian Ocean, mainly natural gas and some light oil and condensate. Oil companies have expectation that oil will soon be discovered on this side of the Indian Ocean. From these discoveries, the need for more sustainable, equitable management of the mineral resources associated with need for industrialization have been driving local content policies. The need to create delivery capacity and to induce domestic demand for goods and services that can share the wealth from the mineral resources has been driving the LC policies in many countries.

The literature agrees on the fact that LC initiatives must be approached cautiously so as to not further distort the market by creating government failures that then become perpetuated and embedded in public policy[45].

[42]GIZ, 2016. Space for Local Content Policies and Strategies: A crucial time to revisit an old debate.
[43]Håvard Halland et al, "The Extractive Industries Sector: Essentials for Economists, Public Finance Professionals, and Policy Makers," (World Bank Group 2015).
[44]Energy Sector Local Content and Local Participation Policy Framework 2004, Government of Trinidad and Tobago.
[45]GIZ, 2016. Space for Local Content Policies and Strategies: A crucial time to revisit an old debate.

For example, local content requirements can have the same economic effect as a tariff and this can result in lower prices and hurt business revenues[46]. Local content requirements are such that is mandatory to the companies to purchase target amounts of goods from local suppliers regardless of whether the local goods and services are competitive in price and quality increase the cost to the purchasing firm. In turn, they may demand lower prices from local suppliers to balance out the increased cost incurred. The result can be a reduction in business revenues to local companies.

https://pixabay.com/photos/mining-machines-machinery-equipment-440743/

[46]Mussa, M. (1984) "The economics of content protection," NBER Working Paper No. 1457, 1984.

XI. Policy Conclusions and Options for Mozambique

There is nothing inevitable about the adverse effects of natural resources but resource-rich developing countries must face the challenges that come with having such wealth and use it wisely. A first step is surely to understand the potential problems and to be explicit and transparent about how one intends to deal with them[47]. It is also key that the governments understand that there is no one key fits all solution, each country is specific and requires its own unique remedies. Some of the success stories discussed in this paper are good experiences to learn from, but they may not be uniformly importable into Mozambique and have the same rate of success.

The Mining and Petroleum Laws, and their regulations try to establish a more equitable profit-sharing structures, strengthening government capacity and clarifying the public and private sector's roles in extractive industry.

Mozambique's impending resource boom has raised local content and value addition issues to the centre stage. A LC law is currently under preparation, a process that begun at the end of 2014. The draft law is under discussion at different levels in order to build consensus and a law that benefit Mozambique without chilling out the investment. The law will provide a framework for industrialization and for participation of Mozambicans in the mineral resources development activities.

The key laws with relevant local content and value addition elements for MOG are presented in the Mining and Petroleum Laws enacted in 2014 and the regulations approved in 2015. The Petroleum Law highlights the following elements related to Local Content:

- "oil and gas companies" must be registered on the Mozambique Stock Exchange;
- Requirement for National Preference and 10% price benefit to local companies and products
- Requirement for foreign companies to associate with Mozambican companies to provide categories of goods and services which require specialized knowhow.
- Decree n.° 15/2010, of 24th May on Procurement of Goods and Services from public entities.

The Mining law highlights the following elements related to Local Content and Value Addition:

- The State shall always consider the national interests of Mozambique, in particular in relation to the conservation of natural resources, environment, domestic economic activities and food and nutritional needs;
- Increasing local development and participation of Mozambicans in the mining sector
- Local content requirements for the procurement of goods and services for mining activities which are designed to promote the development of Mozambican business linkages and know-how;
- Requirement for foreign persons/entity to associate themselves with Mozambican persons/entity to supply goods and/or services to the mining sector in Mozambique (Article 53(2));
- Percentage of revenues generated to the State by mining activities shall be allocated by the State to the development of communities located near mining activities;
- Employment of non-Mozambican nationals is regulated by the Decree No. 63/2011;
- Minerals Processing and Value Addition in Mozambique, "if economically viable", any processing activities relating to minerals produced in Mozambique must be undertaken in Mozambique (Art. 57);
- The State is required to progressively increase its participation in mining projects; and,
- The Mining Law provides that mining companies must be listed on the Mozambican Stock Exchange (Bolsa de Valores de Moçambique).

[47]Elena Paltseva and Jesper Roine, SITE: 2011. Resource Curse: What Do We Know

On developing general policy, strategy, legislation, and conducive environment, Mozambique's local content policies need to be aligned with national and regional industrialisation strategies in order to allow proper maximisation of synergies, economy of scale and comparative advantages in the country and in the region. LC regulations will need to make provision for sector specific actions, for finance mobilization or facilitate concessional lending for the industrialization purpose. A starting place is the Mozambican national procurement law, which includes some benefits for SMEs and places a central focus on SME development and the promotion of investment linkages. Additionally, the development of the financial sector will positively generate financial products that will finance the SMEs in the country.

The LC approach in Mozambique is aligned with other efforts, such as the African Development Bank (AFDB) effort in promoting inclusive private sector development and SME linkages with large investments. The AFDB and government efforts aim also to promote economic development through the integration of economic activities within infrastructure development (e.g. the Nacala Corridor for Moatize coal transportation and export through the Nacala Port in the North of Mozambique)[48]. The AFDB has made various infrastructure investments to support the Nacala corridor, and to strengthen the inclusiveness of these investments, the AFDB designed two technical assistance projects, a value addition project in Malawi and a business linkage project in Mozambique[49].

https://clubofmozambique.com/news/newly-elected-parliament-holds-first-session-of-legislature-153152/

References

1. ACET Study, 2016: Mozambique Local Content and Value Addition
2. AfDB, 2009, Oil and Gas in Africa, Supplement of the African Development Bank Report
3. Centro de Integridade Publica (2013)"Pande Temane Gas Exports to South Africa, Edition no 17/2013, Maputo
4. Elena Paltseva and Jesper Roine, SITE, 2011. Resource Curse: What Do We Know
5. About It?
6. Energy Sector Local Content and Local Participation Policy Framework 2004, Government of Trinidad and Tobago.
7. Estratégia Nacional de Desenvolvimento (ENDE)', Ministério da Planificação E Desenvolvimento, June 2013.
8. GIZ, 2016. Space for Local Content Policies and Strategies: A crucial time to revisit an old debate.
9. Håvard Halland et al, "The Extractive Industries Sector: Essentials for Economists, Public Finance Professionals, and Policy Makers," (World Bank Group 2015).
10. https://www.ajsgem.com/articles/mozambique-ruby.html (accessed in November 2017)
11. https://www.bmiresearch.com/ (accessed in December 2017)
12. http://clubofmozambique.com/news/afdb-to-support-mozambique-smes-in-the-construction-sector-along-nacala-corridor/
13. http://clubofmozambique.com/news/mozambique-government-and-shell-enable-local-use-of-rovuma-basin-gas/ (accessed in January 2018)
14. http://www.theoryofchange.org/what-is-theory-of-change/how-does-theory-of-change-work/ (assessed in January 2018)
15. https://www.investopedia.com/terms/c/capital_gains_tax.asp#ixzz536pzMkUf
16. http://www.kenmareresources.com/~/media/Files/K/Kenmare-Resources-PLC/pdf/Annual%20Report/ar-2016.pdf (accessed in December 2017)
17. http://pubdocs.worldbank.org/en/469371468274738363/mozambique-national-financial-inclusion-strategy-2016-2022.pdf
18. https://www.solidar.all2all.org/IMG/pdf/b12_trade_unions_and_ngos_response_to_epas_zimbabwe.pdf
19. https://www.pwc.com/gx/en/transportation-logistics/publications/africa-infrastructure-investment/assets/mozambique.pdf
20. http://siteresources.worldbank.org/EXTNWDR2013 Resources/8258024-1320950747192/8260293-1320956712276/8261091-1348683883703/WDR2013_bp_Jobs_and_Welfare_in_Mozambique.pdf (accessed in January 2018)
21. Kaplan, Z. 2013 – Policy option for strengthening local content in Mozambique; SPEED – USAID/Mozambique.
22. MIREME, 2014. The 10 years report of the Ministry of Mineral Resources in Mozambique.
23. Mussa, M. (1984) "The economics of content protection," NBER Working Paper No. 1457, 1984.
24. Petroleum Africa (2014) "Mozambique to See Oil Production in 2014," www.petroleumafrica.com January 2014.
25. The Norwegian Oilfield Services Analysis 2014.

"WE KNOW, WE CONNECT, WE CONTEST"

UNITED NATIONS
UNIVERSITY

UNU-INRA

Institute for Natural Resources in Africa

About UNU-INRA

—

The United Nations University Institute for Natural Resources in Africa (UNU-INRA) is one of the 14 research and training centres of the United Nations University (UNU) and is the only one focusing predominantly on Africa. We provide cutting-edge solutions and knowledge outlets for natural resource planning and management from an African perspective.

UNU-INRA serves as a platform to amplify African voices and showcase made-in-Africa solutions. We harness the incredible talent on the continent and also strengthen and develop capabilities by equipping African researchers, entrepreneurs and policy actors with the requisite knowledge to sustainably manage natural resources. We deliver research, capacity development and policy advice, and we convene spaces for knowledge sharing.

Our operating units across 5 countries in Africa (Senegal, Ivory Coast, Cameroon, Zambia and Namibia) give us on-the-ground knowledge, while our global network of experts and the wider UNU group give us a comparative advantage in the production and export of knowledge.

It is our vision for Africa to realise the transformational potential of natural resources in the context of sustainable development and deliver a prosperous, fair and resilient future.

UNU-INRA
United Nations University
Institute For Natural Resources In Africa

For more information contact:

International House
Annie Jiage Road
University of Ghana, Legon Campus
Accra, Ghana.

T: +233-302-500396
F: +233-302- 500792

@UNUINRA
www.facebook.com/UNUINRA/
email: inra@unu.edu

Supported by:

United Nations
Economic Commission for Africa