



INTERGOVERNMENTAL FORUM  
on Mining, Minerals, Metals and  
Sustainable Development

IGF Guidance For Governments:  
Leveraging Local Content Decisions  
for Sustainable Development

## CASE STUDY

# MOZAMBIQUE: HORIZONTAL LINKAGES

## CONSTRAINTS OF BUILDING HORIZONTAL LINKAGES IN A LOW-CAPACITY ENVIRONMENT

### OVERVIEW

#### LEVEL OF OPERATION:

National, industry

#### GOVERNMENT ROLE:

Regulator, program facilitator and funder  
(indirectly through tax incentives and beneficial  
electricity tariffs)

#### LINK TO POLICY ADOPTED:

see [Mozal; The IFC Mozlink Program; IFC Oil, Gas & Mining Linkages in Mozambique \(video\); Beluluane Industrial Park](#)

#### KEY COMMODITIES:

Coal, titanium, natural gas<sup>1</sup>

#### TOTAL NATURAL RESOURCE RENTS (AS % OF GDP) (2015):

13.1 per cent<sup>2</sup>

#### NATIONAL EXTRACTIVES COMPANY:

ENH – Empresa Nacional de Hidrocarbonetos. The Government also owns nearly 4 per cent of Mozal's shares.

#### UNDP HUMAN DEVELOPMENT INDEX VALUE (2016):

0.418 (Global Rank 181)<sup>3</sup>

This case looks at the Mozal aluminum smelter in Mozambique, focusing on the challenges of building horizontal linkages in a low-capacity environment.

Mozambique is located in southeastern Africa, between South Africa and Tanzania. The country has a population of 29 million people and is endowed with a large and diverse base of mineral resources and hydrocarbons, including significant reserves of coal, heavy sands, metals (e.g., iron, nickel, copper, titanium, and manganese), precious metals (e.g., gold, silver), gems and building materials.

A peace agreement was signed in 1992 that ended 16 years of civil war. Due to economic and fiscal constraints, the IMF and World Bank imposed structural adjustment reforms. The restructuring

<sup>1</sup> Central Intelligence Agency (CIA). (2017). *The world factbook*. Washington, DC: CIA. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/fields/2111.html>

<sup>2</sup> World Bank Group. (2017). *Total natural resource rents (% of GDP)*. Washington, DC. Retrieved from <https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>

<sup>3</sup> United Nations Development Programme. (2016). *Human Development Reports: Mozambique*. Geneva, Switzerland. Retrieved from <http://hdr.undp.org/en/countries/profiles/MOZ>



of the economy began in 1987, and within a decade Mozambique was being hailed as one of Africa's best-performing economies—growing at an annual average of 8 per cent over the past 20 years (World Bank 2008, 2011). However, this growth occurred from a low base and was mainly due to an inflow of foreign aid and investment oriented toward “megaprojects” in aluminum, minerals and forestry.<sup>4</sup> Income inequality remained high, with more than 50 per cent of the population living in poverty.

## While the mining sector is growing, Mozambique remains primarily an agricultural economy.

Until recently the mining sector has been largely underdeveloped: in 2001 mining accounted for less than 1 per cent of GDP and less than 2 per cent of exports. Large-scale mining investments in the country were held up by significant constraints, including the policy environment, governance capacity, infrastructure availability and industrial capacity. Due to the discovery of significant mineral resources and natural gas, the mining sector is expected to be the main contributor to growth in 2017 and 2018, having registered a year-on-year growth in GDP contribution of 60 per cent as of mid-2017.<sup>5</sup>

While the mining sector is growing, Mozambique remains primarily an agricultural economy. Crops such as cotton, copra, tea, sugar and nuts make up 27 per cent of GDP and 79 per cent of employment. While the manufacturing base is quite weak, it still accounted for about 11 per cent of GDP in 2014. This is mainly based on metal

products, but the base metals are often imported (see Mozal example below). Aluminum production represented 48 per cent of manufacturing output and accounted for 26.9 per cent of exports in 2014 but has been as high as 49.7 per cent of exports (in 2010) (Organization for Economic Co-operation and Development, 2017).

The government has recently reassessed the regime applicable to mining operations. In 2011 the Mega Projects Act was introduced establishing a legal framework for public–private partnerships (PPPs), along with the Petroleum Act and a new Mining Act in 2014 (replacing the Mining Act of 2002). The new Mining Act seeks to guarantee and safeguard national interests with a view to maximizing economic benefits for Mozambique and its people.

## SUPPLIER DEVELOPMENT AIMED AT SERVING DIVERSIFIED CLIENTS: MOZLINK II (2007–2010)

The USD 1.3 billion Mozal aluminum smelter investment was awarded in 1997 to a consortium composed of BHP Billiton (47 per cent), Mitsubishi (25 per cent), the Industrial Development Corporation of South Africa (24 per cent), and the Government of Mozambique (4 per cent). The IFC provided some financing, and the government provided a range of tax incentives<sup>6</sup> and beneficial electricity tariffs.<sup>7</sup> Although not a mining project per se—Mozal processes imported alumina—it was a flagship investment that could help develop business linkages and create jobs.

<sup>4</sup> Megaprojects are defined as those with an investment amount exceeding USD 500 million. Nine such foreign direct investment projects took place, with an average investment of USD 2.6 billion.

<sup>5</sup> African Development Bank. (2018). *African Economic Outlook 2018*, p. 160. Retrieved from [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African\\_Economic\\_Outlook\\_2018\\_-\\_EN.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African_Economic_Outlook_2018_-_EN.pdf)

<sup>6</sup> These include exemptions from the value-added tax, excise duties, customs duties, stamp tax, property tax and municipal tax on rental income, and corporate income tax replaced by a 1 per cent turnover tax; all of these for a 50-year time period with an option for renewal.

<sup>7</sup> Low-cost electricity was significant, as power represents about 30 per cent of total operating costs of aluminium smelting.



From Mozal's inception, various public-private initiatives were launched to scale up business linkages, particularly with small and medium-sized enterprises (SMEs). Having identified private sector weakness and its inability to meet international trade standards as the main constraints, Mozal established the Small and Medium Enterprise Empowerment and Linkages Program (SMEELP) in 2001 to enable local businesses to compete for contracts during construction. Following its success, the Mozlink I linkages program was jointly established by the International Finance Corporation (IFC) and Mozal when the plant became operational in 2003. Then in 2007, Mozlink II was launched and the program was expanded to include Sasol (gas), SABMiller and Coca Cola (both in beverages). To benefit from technology transfer, Mozambique's government also created the Export Processing Zone (EPZ), known as Beluluane Industrial Park (BIP) in Maputo in 2005, with the aim of improving competitiveness through sharing information and industrial knowledge. The spillover effects hoped for were gains of productivity, efficiency and competitiveness of local enterprises resulting from technology and skill transfer from foreign companies. By 2007, the BIP had 16 free zone projects, one of which was the Mozal aluminum smelter.

Mozlink II specifically aimed to help SMEs in Mozambique "gain the skills and technical capabilities to compete effectively, and in a sustainable way, for large contracts in a number of important industries." The approach in Mozlink II, which was developed with the same methodology established by prior programs, consisted of five phases:

- Preparation: A strategy covering the essential components of the program (e.g., procurement, finance, program monitoring and evaluation) was designed, SMEs were selected, and technical (company employees) as well as business (external consultants) mentors, who would coach and guide the SMEs through the program, were

identified, recruited and trained.

- Assessment I and Workshop I: Training and mentoring sessions were held, and a six-month improvement plan for each SME was developed.
- Execution of the SME Improvement Plan.
- Assessment II and Workshop II: Data was collected and compared with baseline data with a focus on improvements.
- Evaluation: Changes in the procurement patterns of the lead company were measured (e.g., quantity and size of contracts, turnover, employment and client diversification).

**Mozlink II specifically aimed to help SMEs in Mozambique "gain the skills and technical capabilities to compete effectively, and in a sustainable way, for large contracts in a number of important industries."**

With a budget of USD 1 million, of which close to USD 700,000 was spent by the program, Mozlink II organized 51 workshops/training events attended by a total of more than 550 people; 77 entities received training and 45 received mentorship. The key outcomes of the program were:

- 36 entities implemented the recommended changes
- USD 53 million in incremental sales were generated for local SMEs.

In a post-completion evaluation survey, Mozlink II was generally regarded to be successful by almost all the respondents. The buyers highlighted their intention to continue funding the program, suggesting that they derived more benefits than their costs (which amounted to USD 0.5 million in the three years).



However, compared to the previous programs, Mozlink II experienced lower levels of leadership and commitment among the lead companies, which was directly related to the presence of multiple lead companies with diverse sectoral backgrounds. Other reported difficulties included high expectations of local SMEs, which required careful managing

succeeded in diversifying their respective markets. Because of the nature and sophistication of Mozal's operation, most of the enterprises that were linked to the project became specialized to provide goods and services to the company, and did not develop horizontal linkages. Serving such a small, highly technical market niche meant that some of the

**While Mozal provided opportunities to develop linkages, it was not automatic that local firms would benefit from them to develop a strong, sustainable diversified client base.**

companies became completely dependent on Mozal. For example, Da Costa (2012)<sup>9</sup> highlights that while Agro-Alfa succeeded through the program in acquiring technological capacities and diversifying their portfolio, others, such as KANES, incurred large losses after finishing their contract with Mozal, as they had equipment that could not be used elsewhere in the economy. While Mozal provided opportunities to develop linkages, it was not

throughout the project's lifespan,<sup>8</sup> and the lack of an access-to-finance scheme for SMEs. Most SMEs could not access financing from commercial banks due to lack of collateral, lack of formal credit histories, and high interest rates. There was a wider perception that the program had lost some of its momentum, and the handover of Mozlink II to the Centro de Promoção de Investimentos (CPI, or "Investment Promotion Centre") was a cause for concern among key stakeholders who doubted the institution's capacity. This underlined the lack of a sustainability strategy drawn at the program design stage.

automatic that local firms would benefit from them to develop a strong, sustainable diversified client base. Most of the equipment acquired, along with the knowledge and skills, became underutilized, as no other industries demanded the same standards and/or services. This highlights that Mozlink did not include a clear plan on how to create the potential linkages with other existing productive capacities.

While the Mozlink II program is considered a success by internal participants, the picture is more mixed when viewed externally. Some critics have pointed out that too few linkages were created overall compared to the value of the Mozal-Sasol investments (USD 4 billion). Importantly, knowledge spillovers and horizontal linkages are thought to have been small. Despite Mozlink II's goal of developing competitive SMEs for a diversified client base, only a few SMEs that joined the program

One reason was that the definition of "local companies" used was any company registered in Mozambique. This definition included subsidiaries of foreign firms such as South African firms which imported most of their goods. As a result, Mozambican indigenous capacities did not develop to fully take advantage of megaprojects. It was estimated that two-thirds of the expenditures on "Mozambican" companies were for raw materials and intermediate goods, spare parts, equipment, energy and fuel imported from South Africa.

Mozambique's new Mining Act of 2014 places a priority on local content. However, neither local content itself nor local procurement requirements

<sup>8</sup> Many entrepreneurs thought joining the program would guarantee contracts from corporations and lost interest when that expectation was not met.

<sup>9</sup> Da Costa, N.C.M. (2012). *Are there spillover effects from foreign direct investment in Sub-Saharan Africa? Assessing the linkage effects in Mozambique* (Master's thesis). University of London.





are defined in the legislation, leaving them to be specified in the individual mining contracts. While this can give firms and the government greater flexibility to consider local dynamics and specificities, it has several drawbacks, such as lower transparency, lower oversight, dependency on individual negotiations and potential for greater red tape as different ministries may interpret local development in different ways.

Mozambique's record in 2012–2013 (i.e., a couple of years after the closing of Mozlink II and a decade and a half after the start of Mozal) does not display signs of significant horizontal linkages. For example, exports, excluding megaprojects, were relatively static between 2002 and 2010, and, as another illustration, a study showed that FDI did not play an important role in the formation and accumulation of technical capabilities and skills in the Mozambican light chemical and metalworking sector.<sup>10</sup> This points to the fact that building horizontal linkages by targeted supplier development is a lengthy and difficult process, and challenging to scale up so as to make a sizable impact on an economy.

A review of the Mozlink II program conducted in 2012 indicated “country-specific factors” that affected its success, including:<sup>11</sup>

- Underdeveloped private sector characterized by a large informal sector
- Underdeveloped manufacturing sector
- Low levels of human capital development
- A policy environment biased toward foreign companies and megaprojects at the expense of local enterprises.

Not surprisingly, these broadly point to identified prerequisites for successful horizontal linkages policies. These are areas that are likely to take longer to solve on a large scale.

## ADDITIONAL BUSINESS LINKAGE PROJECTS

Besides the Mozal project, other mines have also attempted to build supplier capacity in Mozambique. Rio Tinto Coal Mozambique, which operated in the Tete region, initiated a business linkages program by identifying areas for local SME participation and evaluated the ability of local firms to meet the supply needs. It also established a business centre in 2012 to provide information, support and facilities. Vale initiated a similar program for its coal mine in the region, in collaboration with the IFC. However, neither project achieved the desired results. The Vale program was readjusted to a more traditional corporate social responsibility approach with no focus on business linkages after the IFC discontinued its investment. Rio Tinto in 2014 sold its assets to India's International Coal Venture Private Limited, which has not made any specific local development commitments.

While the Rio Tinto and Vale projects were ultimately scrapped due to external events, the effectiveness of the programs was also severely hampered by local conditions, particularly the low level of industrial development, as well as the low skill levels of the local labour force.<sup>12</sup> Long years of civil war drained the country of its labour capacity, and educational attainment levels in Mozambique are among the lowest in the world: only 2 per cent of the population has completed high school. Governance in Mozambique has also been recognized as a disincentive for firms to formally register and license their businesses, and access to finance is a major challenge faced by local SMEs that want to grow their businesses.

<sup>10</sup> Da Costa (2012), Id. Note 9.

<sup>11</sup> Mwanza, P. (2012). *Mozambique business linkages review: An overview of key experiences, issues and lessons*. Written by DAI and Nathan Associates for USAID. Retrieved from <http://www.speed-program.com/wp-content/uploads/2012/11/2012-SPEED-REPORT-MOZLINKAGES-REVIEW-EN.pdf>

<sup>12</sup> Korinek, J. & Ramdoo, I. (2017). *Local content policies in mineral-exporting countries* (OECD Trade Policy Papers, No. 209). Paris: OECD Publishing. Retrieved from <http://dx.doi.org/10.1787/4b9b2617-en>



## KEY LESSONS

- Capability-led horizontal linkages most often develop from upstream linkages. If upstream linkages do not yet exist or are underdeveloped, then the focus should be to develop these upstream linkages. It may be possible to develop some horizontal linkages in conjunction with developing upstream sectors.
- Supplier development programs aimed at serving diversified clients can foster knowledge transfer, innovation and horizontal linkages. However, these are not likely to have an economy-wide impact.
- Developing upstream suppliers will not necessarily lead to horizontal linkages. It is a necessary, but not sufficient condition. There should be a clear plan to develop the links with other productive sectors.
- The definitions of local content or local business for linkages policies will critically shape their outcome. The local context and key objectives should be considered when defining these terms, and definitions should generally target value addition and skills/technology transfer. The definitions must be clear, measurable and consistent across government.
- Supplier development programs aimed at serving diversified clients may be difficult to scale up due to the amount of resources required and a lack of qualified companies on which to focus.
- The availability and level of skills in the economy determine the absorptive capacity. Without an adequate skills base, horizontal linkages are likely to be limited. Skills and knowledge gaps need to be addressed first or in conjunction with horizontal linkages policies.
- The business environment determines how (or if) linkages occur. Policies to promote horizontal linkages are unlikely to be successful when the overall business environment is not conducive.



### FOR MORE INFORMATION CONTACT

Secretariat@IGFMining.org  
1100-220 Laurier Avenue W.  
Ottawa, Ontario  
K1P 5Z9 Canada

[IGFMining.org](http://IGFMining.org)  
 @IGFMining @IGFMining

Written by Somine Dolo, Guire Togo and Martin Odendaal

Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). (2018). *Mozambique: Horizontal linkages—Constraints of building horizontal linkages in a low-capacity environment* (Case Study). IGF Guidance for Governments: Leveraging Local Content Decisions for Sustainable Development. Winnipeg: IISD.

Secretariat hosted by:



Secretariat funded by:

