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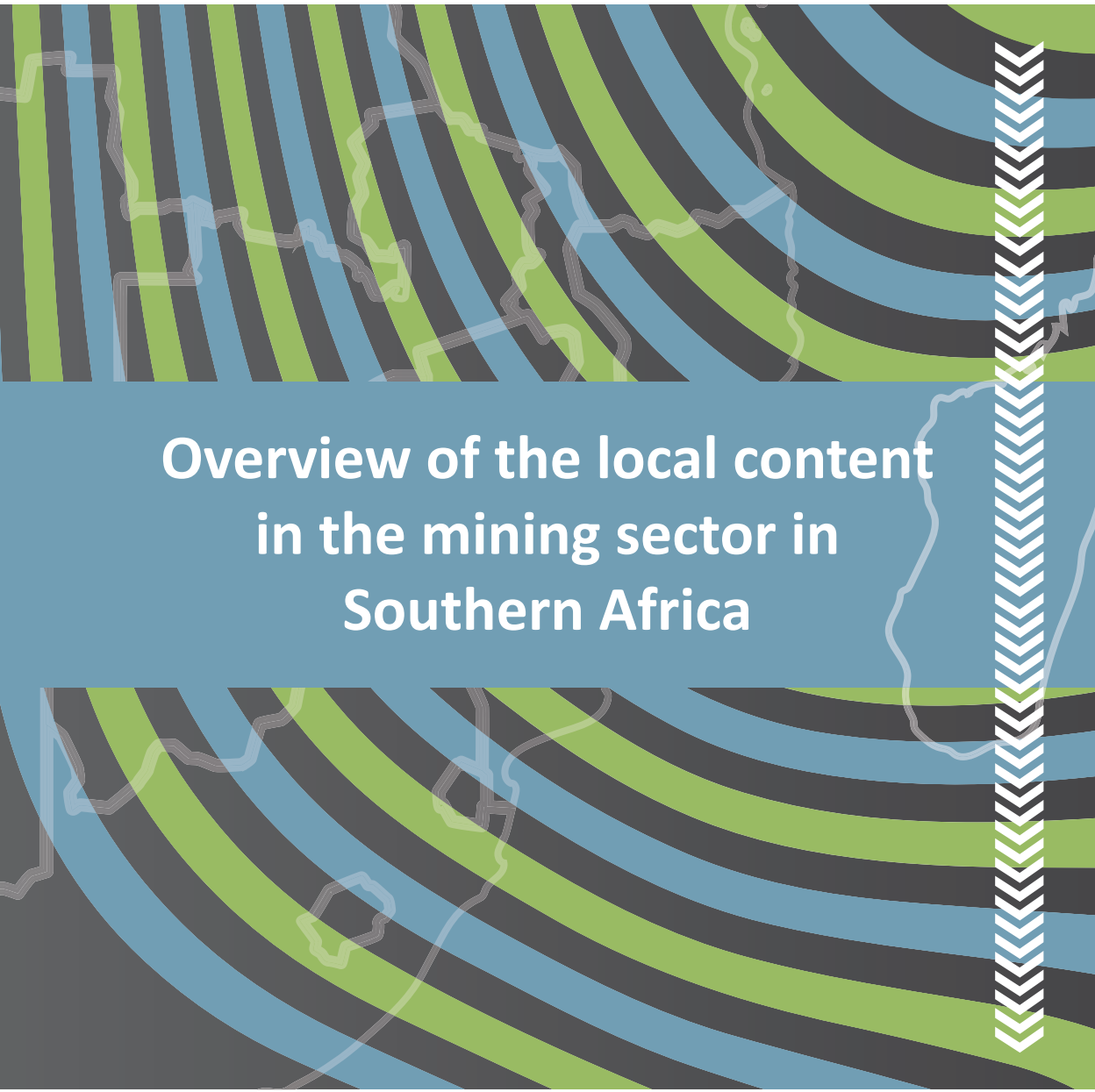

Overview of the local content in the mining sector in Southern Africa

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Southern Africa Resource Watch

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General Introduction

To ward off what some have termed the “natural resource curse”, African countries have incorporated into their mining legislation tools (or mechanisms) that allow governments to diversify economies in order to reduce their dependence on extractive industries and fight poverty among the population, especially those surrounding extraction sites. These tools include local content. This is defined as the obligation of economic operators to respect the principle of national preference in the choice of their subcontractors and suppliers, and in the employment and training of nationals in the sectors of their activities, as well as the transfer of technology used in the extraction of natural resources to the host countries.[1]

Many resource-rich countries continue to face undiversified economic structures, with weak industrial bases, high unemployment rates, and economies vulnerable to commodity cycles. Many are reviewing or revising their investment and mining codes and contracts, based on local content policies, to better capitalise on the considerable potential of the mining industry for inclusive economic development. But there is no universal model; each country has different resources, different skills among its local suppliers and workforce, different infrastructure assets and challenges, and different investment environments. Local content policies implemented in the past have tended to be more cautionary than reflecting best practice.[2]

SARW is pursuing two objectives in the writing of this report. One is to gain an overview of experiences with the regulation of local content in principle at the international level, and the other is to analyse the legal framework and public policies related to local content in the Democratic Republic of Congo (DRC), Mozambique, South Africa, Zambia, and Zimbabwe, in order to influence governments and the extractive industries in the SADC region to generate economic and infrastructure linkages along the value chain of their operations.

[1] https://fr.wikipedia.org/wiki/Local_contentn, Accessed 15 October 2020.
[5] Inter Governmental Forum (IGF), A Guide for Governments: Local Content Policies, https://www.iisd.org/system/files/publications/igf-local-content-executive-summary-fr.pdf, Accessed 14 January 2021.

Overview of local content in Southern Africa

Introduction

The last decade has seen a growing focus on the need for African countries that host mining and oil and gas operations to develop more linkages with the rest of their economies. This desire was codified in the 2009 African Mining Vision and took on greater significance as the commodities downturn after 2012 revealed a lack of structural transformation from the 2000s commodities boom.

Southern African Development Community (SADC) countries have already experienced a variety of attempts to create linkages along extractive supply chains, including backward linkages (local procurement) and forward linkages (processing and other types of beneficiation). Though local content attempts in the SADC region provide valuable lessons, few can really be completely successful, illustrating the need for best practices in policy to be applied well in country contexts. Looking forward, legal provisions for local content will continue to gain traction, as we have seen in the past year alone, with Zambia and Mozambique currently in the process of creating new regulations. Informed policy is crucial for SADC countries to take advantage of extractive industry activity in a way that benefits national economies and ultimately, improves the lives of citizens.

This paper seeks to outline key components to consider when developing a local content strategy for SADC countries that host extractive industry activity. Each type of linkage explored – backward, forward, and shared infrastructure linkages – is presented with the key policy options for encouraging linkage growth, along with an analysis of pre-conditions and key drivers for success. Several SADC countries (including South Africa, Tanzania and Zambia) have policies in place which can be analysed, and so do other countries in sub-Saharan Africa (such as Ghana and Nigeria). In addition, success stories from other parts of the world – particularly in the case of forward linkages in Asia – provide invaluable lessons in a context where many countries in Africa face challenges. In terms of infrastructure linkages, case studies are less prevalent, although South Africa and the Democratic Republic of Congo (DRC)'s experiences, along with countries outside of the SADC region, are presented below to provide crucial lessons for the planning process. While SADC countries are the focus, this brief draws from examples around the world to extract lessons on critical factors in the design of context-specific strategies to promote local content.

Backward linkages (local procurement)

Background

Backward (or upstream) linkages refer to the procurement of goods and services required by extractive industry projects. Site-level procurement spending is the single largest in-country economic payment of most sites over the life cycle of a project – often more than taxes, salaries, wages, and community investment combined.[3] Therefore, procurement is an incredibly important lever in ensuring economic participation by countries that host extractive activity and creating positive social impact. Developing a local supply industry provides an opportunity to increase revenue for the host country as new businesses start and existing local companies can scale up, promoting job creation, knowledge transfer, and skills upgrading. In countries like those in the SADC region, prioritising the creation of backward linkages will likely be the most effective local content strategy.

Backward linkages are also key to creating horizontal linkages. Skills and resources generated in the extractive industry value chain can be used to supply other sectors. For example, the successful creation of firms that supply a mine or oil operation with personal protective equipment (PPE), can adapt to supply similar products to the healthcare sector. Therefore, government strategies to increase backward linkages from extractive industry activity can also act to diversify the economy. As Dolo et al argue, "skills and knowledge gaps need to be addressed first or in conjunction with horizontal linkages policies" and not by themselves (2018: 6). This potential to strengthen horizontal linkages is also an important factor when comparing potential advantages between host governments prioritising backward or forward linkages. As Östensson and Löf state, "[b]ackward linkages are also likely to offer greater scope for economic diversification than do downstream activities, since the enterprises involved in the former are usually less specialized and also since scale requirements are less demanding" (2017, p. 14).

[3] For indicative figures, see the World Gold Council's Responsible gold mining and value distribution, 2013 data, which shows that 71 per cent of all in-country payments made by gold mining companies are to suppliers.

Policies to increase backward linkages from extractive industries can be classified into two main groups: demand-side policies and supply-side policies. The first category places demands on the extractive industry companies themselves to make efforts to purchase local goods and services, while the second category aims to develop the skills, quality, capability and overall readiness of local suppliers and the wider supplying ecosystem. It is important to note that these two types of policies are complementary in the challenges they address, and success therefore hinges on the ability to pursue them in tandem (Cosbey and Ramdoo 2018, p. 23-24).

Policy options

Demand-side policies

Targets and lists

Targets are mandatory goals or percentages of local procurement that extractive industry companies need to achieve during their operations. These policies are legally binding, meaning that they are included in mining laws, contracts, and concession agreements, or are present in empowerment laws (Korinek and Ramdoo 2017a: 10).

Within the SADC region, South Africa has one of the most complex target regulatory frameworks for mining. The Chamber of Mines establishes a Broad-Based Black Economic Empowerment Scorecard which requires its members to comply with a procurement target of 70 and 80 per cent for goods and services respectively, from Black Economic Empowerment (BEE) entities. These targets are put in place in a complex and intricate manner. For example, it is stated that "at least 5 per cent of total mining goods procurement spend sourced from BEE companies need to be owned and controlled 50 per cent + 1 vote by female Black Persons and/or "youth" (defined as Black Persons between the ages of 18 and 35 years)" (Cosbey and Ramdoo 2018: 24).

Percentage targets can also be applied to goods and services, rather than an all-encompassing target for an extractive industry's total procurement spending. For example, Nigeria's 2010 Nigerian Oil and Gas Industry Content Development Act includes a list of 280 goods and services and accompanying percentages for

each that must be purchased from domestic suppliers. For example, 60 per cent of valves and 55 per cent of well-testing services must be purchased from Nigerian suppliers (Nigerian Oil and Gas Industry Content Development Act 2010). Tanzania also uses this approach for both mining and oil and gas, though in addition to escalating targets for specific goods and services over five years, they also mandate a total overall percentage for mining that is also escalating. It should be noted that as of October 2020, Nigeria is in the process of updating its local procurement regulations for the oil and gas sector.

A variation of the target policy is a "set-aside" list. In this case, the government establishes a list of specific products that companies are required to purchase locally. Ghana currently has a list of twenty-eight goods and services that mining companies must purchase from nationally based suppliers or else face fines.[4] Ghana has claimed success with this approach, in combination with its plan approach (laid out below) which states that from 2014 to 2018 it increased local procurement from US$148.24 million to US$394.09 million (Anon. 2020).

It is important to note that if target percentages and lists do not account for value-addition and actual participation by national managers and employees, there is a risk that extractive industry companies can meet these requirements without meaningfully contributing to policy goals (such as increased employment and tax revenue).

For example, if a local procurement target is only based on the ownership of the firm by a national citizen, and not on elements like value addition and local employment created, large figures of "local" procurement can be spent on imported goods. Before the change in regulations in 2018, South Africa experienced evidence of displacement of locally produced goods for the mining sector due to imported products being sold by local businesses who met the ownership-based requirements (Korinek and Ramdoo 2017b: 96). Likewise, in Ghana, because parameters on imported goods are not specifically defined, mining companies can meet the requirement for local procurement of listed goods by purchasing from resellers. This creates little immediate in-country benefit in terms of revenue and employment, and in the long term does not build the productive capacity to manufacture goods that can be gradually expanded to more complex products. Pur-

[4] This list originally started in 2012 with eighteen goods and services, was pared down to eight after consultation with the mining sector, and now is at twenty-eight

chasing imported products from resellers is, in effect, procurement without any kind of structural transformation to the capacity of the host economy.

In this regard, South Africa's current approach is something to consider, even if the target itself is considered problematically high by most observers. The 2018 Mining Charter (South Africa. Broad-Based Socio-Economic Charter for the Mining and Minerals Industry 2018: 19), stipulated that 70 per cent of purchased mining goods must be manufactured in South Africa within five years of the charter's creation, and not merely purchased from a South African-registered supplier. Such a target drives real value addition in the country, although stakeholders frequently argue that it is too high, and that there are not enough supply-side policies to support this.

Requirements for local procurement plans

An arguably more collaborative approach to take with extractive industry companies, is the option where governments require them to submit local procurement plans that detail the actions, they will take to increase spending on national suppliers. For example, in addition to the list approach, Ghana also requires mining companies to submit a five-year local procurement plan and report on it each year, including progress on the listed goods and services (Ghana. Minerals and Mining (General) Regulations 2012: 4). In Tanzania, both mining and oil and gas companies are required to submit a local procurement plan which includes annual reporting (Tanzania. Written Laws (Miscellaneous Amendments) Act 2017; Tanzania. Petroleum Act 2015; Tanzania. Mining Commission (Guideline for Submission of Local Content Plan) 2018).

It is important to note that the success or failure of a plan requirement is dependent on the capacity of the government to monitor the progress made by companies towards their submitted plans, and the ability to make policy and public investment decisions in response to challenges identified by the private sector. In the SADC region, for example, Zambia's requirement for a mining local procurement plan has been in place since 2015, but there is little public information to suggest these plans are being meaningfully monitored or enforced, and there are few examples of companies engaging in meaningful supplier development efforts. While the use of local procurement plans may be a more collaborative and flexible approach to encouraging local procurement, it requires more government capacity to create a positive effect.

Some countries simply state in their legislation that extractive industry companies must "give preference" to local suppliers.

These policies do not mandate or force companies to buy from local suppliers, and simply say that "companies must procure locally to the extent possible," or "where local suppliers are competitive with foreign competitors" (Cosbey and Ramdoo, 2018: 26).

Several SADC countries rely on these types of policies. For example, the DRC's 2015 General Hydrocarbon Regime established that companies should give preference to local suppliers for a few specific products including security, laundry and catering, as long as the quality of their products or services meet the standards of the oil and gas company. Another example can be found in Botswana's Mines and Minerals Act of 1999, which simply states that preference should be given to Botswanan business but does not provide any further specifications for mining companies or suppliers, making the regulation loose and unenforceable (de Weerdt and Geipel 2020: 5-6). The empirical record is clear that these types of "best-effort" clauses do not have much impact on their own. Without any clarity as to what "giving preference" entails, there is really no possible means of enforcement. Such broad language also does not consider any value-addition, and so extractive industry companies purchasing imported goods from resellers or services provided by foreign-owned businesses registered in-country ("front" companies) can claim they are compliant.

Community Development Agreements

Finally, a policy option less common in Africa, but that has proven very effective in other parts of the world, is the use of Community Development Agreements (CDAs), which are agreements between companies and the communities that host extractive industry activities. These agreements usually include local procurement provisions to increase either the demand or the supply of locally sourced goods and services (Everingham et al. 2016: 86). Australia demonstrates good practice of CDAs, often known within the country as Indigenous Land Use Agreements (ILUAs). ILUAs are a three-way contract between government, a company, and an indigenous community in which clear guidelines for collabora-

tion, local procurement and economic development are established. The effectiveness of these agreements is determined by the negotiation power of these communities, in part dictated by their access to information on the status of local capacities and the projected impact of the extractive project on their land (O'Faircheallaigh 2013: 15-16). Canada, where agreements are usually known as Impact Benefit Agreements (IBAs), also has many examples of positive outcomes in local procurement.

Supply-side policies

Supplier development programmes

Supplier development programmes (SDPs) have the objective of developing the capacity and skills of local suppliers and improving the quality of goods and services they produce. This can be achieved through training programmes and mentorship (Kaplinsky and Morris 2011: 69). These types of programmes respond to challenges that businesses face not only in supplying to extractive industry companies but also in communicating with them. SDPs can also provide suppliers with information to help them understand the different procurement processes, which will inherently increase their bidding capacities.

> The relative lack of meaningful government supplier development programmes has often explained why demand-side measures on local procurement have not achieved their intended goals.

As alluded to earlier, South Africa's detailed procurement targets for the mining sector have generally not been accompanied by meaningful government support for the local suppliers (Geipel and Nickerson 2017: 25-30). In some cases, extractive industry companies have proactively created their own programmes, either in response to demand-side measures or because they see the business case for local procurement. It is clear though that significant supplier development efforts without pressure from governments are the exception rather than the rule. In South Africa for example, Anglo American has engaged in very comprehensive and successful supplier development through its Anglo Zimele initiative, but other companies in the country have not produced anything nearly as comprehensive. Likewise, in Ghana, before the 2012 regulations on local procurement, Newmont Ghana worked with the International Finance Corporation (IFC)

on a substantial supplier development programme for the Ahafo Mine (the Ahafo Linkages Programme). This programme managed to increase local procurement from US$1.7 million, to US$4.2 million in contracts for local businesses in the span of three years. (World Business Council for Sustainable Development 2009: 6). Again, while this was a successful private sector-led initiative, in the absence of regulations at the time there were not comparable efforts by other mining companies in Ghana.

More substantial government-led supplier development efforts in Africa can be found in the oil and gas sector. In addition to supplier development efforts by international oil companies in Nigeria attempting to meet the country's local procurement targets that began in 2010, the Nigerian government itself has engaged in supplier development training and invested in key infrastructure, such as the West Africa's Free Zone and Logistics Hub for Multinational Industrial and Offshore Companies (the LADOL free zone). Nigeria did not simply set targets for companies, but made its own meaningful investments in supplier development. Likewise, in Angola, the government mandated supplier development efforts by the oil companies in their contracts to extract, but also invested in industrial zones and the businesses themselves (Ovadia 2012: 143). To this day the state oil company SONOGAL has direct ownership in a number of businesses that supply goods and services used in the direct extraction of oil and gas. Some of these businesses operate on their own, while others are joint ventures with international service providers. While not all of these firms have been successful, many have been. They show that government-led investment may be a way to kickstart backward linkages. And, while neither Nigeria or Angola's approaches have been perfect, they provide a lesson to host countries that meaningful supplier development should come from the government, and not just through demands on the extractive companies themselves.

Access to finance

Access to finance is crucial to supplier capacity. A small influx of funding can be the determining factor for a local business to scale up and supply an extractive industry company. Suppliers in SADC countries regularly face difficulty accessing affordable capital due to their size, credit score, or because there are simply no financial options suitable for their business.

Governments or partner institutions can create alternative financial sources for these companies. Providing financial literacy training, serving as collateral, and expediting payments to increase the cash flow are tools which can help local businesses. One of the core reasons for the success of Anglo American's supplier development initiatives in South Africa is that it included a financing initiative (African Natural Resources Center African Development Bank 2016: 1).

Nigeria provides a model for government-led schemes which provide capital for local small and medium enterprises (SMEs). The Nigerian Content Development Fund (NCDF) is administered by the Nigerian Content Development and Monitoring Board (NCDMB), and one percent of all contract values in the upstream sector of oil and gas activity is taken and provided to the fund. Regrettably, mining has produced few similar examples in Africa, contributing to scenarios where some mining companies have established their own financing source (such as Anglo American in South Africa). This represents a key failing across many extractive industry host countries seeking to increase local procurement. If suppliers cannot access reasonably priced capital, even well-informed targets and effective supplier training will be insufficient to translate into competitive businesses.

In Zambia, the IFC funded the Copperbelt SME Suppliers Development Programme (CSSDP) from 2007 to 2010, which included supplier training and matchmaking with mining industry buyers. However, the results of this large initiative were limited, and one of the main reasons for this was that training of suppliers was insufficient for local financial institutions to grant them capital (Genesis Analytics 2014; International Labour Organization (ILO) 2014). This example demonstrates the prudence of both Nigeria and Anglo American's approach of providing its own source of finance as part of its supplier development.

Supplier portals

Supplier portals are a space in which suppliers and companies meet to generate business. Such portals – generally an online platform – can include information for suppliers regarding tender opportunities, pre-qualification for suppliers, and instructions for bidding processes. Portals can also serve as a roster of local suppliers for extractive industry companies, helping them to find businesses they may not have known about otherwise.

Supplier portals reduce the information gap between these two groups, creating a better understanding between the available opportunities (demand) and the available businesses (supply).

In addition, supplier portals have the potential to pre-qualify suppliers for more than one extractive industry buyer so that each extractive company can avoid individually undergoing timely and costly prequalifying processes. If a portal is run professionally with regular input and monitoring from extractive industry companies, suppliers can then submit all of their documentation to the portal and be ready to bid on tenders from multiple companies.

There are several types of supplier portals. Some are focused exclusively on extractive industry buyers, while others are multisectoral. An example of a multisectoral portal is Invest in Africa's African Partner Pool platform in Ghana, which includes companies such as Newmont Ghana, Tullow Oil, AngloGold Ashanti, but also non-extractive industry companies such as banks and the brewing industry. A multisectoral platform helps suppliers to be exposed to other industries, helping them to diversify their business – helping to further promote horizontal linkages. Another example is the Supplier and Partnership Marketplace (BSTP) in Guinea. There have been some fledgeling efforts to create supplier portals in SADC countries, such as Zambia's B2B (business to business) portal for the mining sector, but this supply-side policy merits more consideration by governments in the region.

Analysis

Having laid out the different policy options which foster upstream linkages, it is relevant to highlight those which have been more successful in yielding concrete results, and delve into the necessary conditions and pre-conditions of these effective cases.

Overall, we can say that countries that have applied a more comprehensive approach to local procurement policies have achieved more success than those who have simply used one or two of the above policies in isolation. Nigeria is a successful example of blending complementary policies in its oil and gas sector. While oil and gas companies are required to purchase from national suppliers, the government has also made efforts to build up the capacity of those suppliers and provide finance. There is a large coordinating body in the form of the

NCDMB that has very comprehensive outreach to the public. The NCDF acts as a source of finance for suppliers of the oil and gas sector (Ovadia 2014: 7-8). By contrast, South Africa shows that targets on their own have limits to what they can achieve. Mining companies will often raise concerns regarding the feasibility of a target due (in part) to a lack of government support for suppliers and difficult operating environments (Geipel and Nickerson 2017: 45-46).

Another observation is that countries that have been more targeted in the goods and services they are seeking to supply have seen greater positive outcomes than those implementing broad targets.

While Ghana's success has been modest due to a relative lack of supply-side policies, the fact that it has used a list of specific goods and services (rather than a blanket target percentage for local procurement) has helped guide where stakeholders focus their efforts. Likewise, in Nigeria, having specific targets for a multitude of goods and services has helped track progress in a more systematic way. It is quite reasonable to think that had Ghana supported its list approach with a greater effort at coordination, through something like a local content board, it could have achieved an even greater increase.

These two arguments point to two essential prerequisites for SADC countries regarding backward linkage policy options. The first is information. In order for governments to create the right regulations and target the right supplying opportunities, they need to have detailed information on the current state of procurement, as well as the current capabilities of businesses. Without this baseline of data, governments may set targets that bear no resemblance to reality or build the capacity of suppliers for products that extractive operations do not actually require. In the case of Ghana, the government collects details from mining companies on their procurement of the twenty-eight goods and services from the list, and this allows them to track progress in a much more accurate way than if it was simply a total percentage for all procurement. This has opened opportunities for the government and industry to collaborate on targeting the competitive supply of products on the list.

The second prerequisite is a strong coordinating body. Requirements to submit local procurement plans will not be effective unless there is a strong government or multi-stakeholder coordinating body to take in those plans and to make policy

and investments based on that information. Nigeria's NCDMB is an institution that SADC countries should investigate as a potential model. Regrettably, for mining there are not many comprehensive examples of this approach, with the partial exception of Sierra Leone which has a local content board. While a much more advanced country, Australia has numerous examples of state governments collecting information on local procurement by extractive industry companies and coordinating economic policy and investments based on that. In the Northern Territory of Australia, for example, the territorial government has introduced comprehensive planning around its natural gas sector and this is a model that SADC countries could consider in the long run (The Extractives-led Local Economic Diversification (ELLED) Framework 2020).

Forward linkages

Background

Across Africa there has often been a political obsession with creating extractive industry forward linkages at the expense of attention to upstream linkages. Many feel that there is something intuitively problematic about the idea of exporting raw materials to other countries, who then process them into finished products, only for the original exporting country to buy them back at a higher cost. It is for this reason that many developing countries have tried hard to create in-country beneficiation for their raw materials, and why the idea is politically popular in Africa even though there have been few examples of success.

This is not to say that SADC countries should entirely avoid attempting to create forward linkages from their extractive industry outputs, but rather to explain the economics as to why it is not as straightforward as it seems, and to emphasise the multitude of preconditions that need to be satisfied to target a particular processed product. Policy options will then be provided, with examples of success and failure.

Richard Kaplan summarises the phenomenon of this natural tendency for governments to want to pursue forward linkages, and how this can be problematic:

"For the country producing the raw material, the further manufacture of primary products, particularly minerals, appears to have a clear logic. Is not the manufacture of pots and pans a logical and natural next step for any country producing iron ore? This viewpoint has captured the public imagination. It also appears to speak to issues of "fairness and redress," namely that raw material countries, particularly in Africa, were historically prohibited from developing their own manufacturing capacities that utilized their access to raw materials.

However, if products are perceived not as material thing but rather as a cluster of skills and competencies, one will arrive at a different conclusion. The cluster of skills and competencies required for mining iron ore will be different than those that are required to manufacture pots and pans. Possessing skills and competencies in the mining of ore does not mean the possession of skills and competencies in the manufacture of pots and pans" (Kaplan 2016: 77-78)

It is vitally important to understand the feasibility of forward linkages as being based on skills and competencies, rather than merely the presence of the raw material.

There are many economic factors that have immense influence on whether value-addition for a particular targeted product is likely to succeed. The table below, from the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), does a thorough job of showing the underlying conditions that are necessary for a strategy to pursue value-addition for a particular extractive industry raw output.

Figure 1: Chart showing critical prerequisites for the potential to pursue forward linkages from raw extractive industry outputs, from the IGF's Guidance for Governments: Local Content Policies (Cosbey and Ramdoo 2018: 60)

It is far more than simply the presence of the required raw materials that drive whether forward linkages can take place. This point can be illustrated by showing that, despite what might seem like common sense, some of the most prominent producers of beneficiated mineral and petroleum products do not extract the raw materials in large numbers (if at all). Japan is the second-largest producer of refined copper in the world and has no copper mines within its borders (Grynberg and Sekakela 2016: 18). China is the largest producer but imports raw copper concentrate for most of the raw material. Singapore became a major exporter of refined petroleum in the 1960s but extracts very little oil and gas within its territory (Toledano and Maennling 2018e). From the 1920s onwards, Australia did everything it could to create a domestic steel industry using its vast iron mining sector, but because of economic realities the country exported 101.7 billion in the 2019-20 financial year in raw iron ore, most of it to China (Haselgrove 2020). The fact that even Australia, an advanced country with comprehensive industrial

skills and capabilities, exports raw iron ore to be made into steel in other countries, shows that even know-how is not always enough if the economic conditions are not right. In their case, there are not enough businesses to buy the steel that Australia can produce, and no amount of domestic policy for forward linkages on its own can change this. What may be possible in the long term is to change those economic conditions, although this is very difficult. Japan did not have the conducive economic condition of a large market for refined copper, but it created one by supporting a large electronics industry that buys significant amounts of copper. It is possible that the implementation of the Africa Continental Free Trade Agreement (AfCFTA) may prove to be an opportunity to change economic conditions, but this is easier said than done.

It also should be stressed that the raw product can make up a very small portion of the overall costs of production for a processed product. For example, in the below data from Anglo American, the price of iron is only between 6-20 per cent of the total cost of producing steel. In other words, the presence of local iron ore is not the huge advantage it would appear to be in making steel, so long as it can be imported at reasonably low shipping costs. As of 2017, under a third of the world's iron ore was processed in the country where it was mined, down from half ten years earlier (Östensson and Löf 2017: 10).

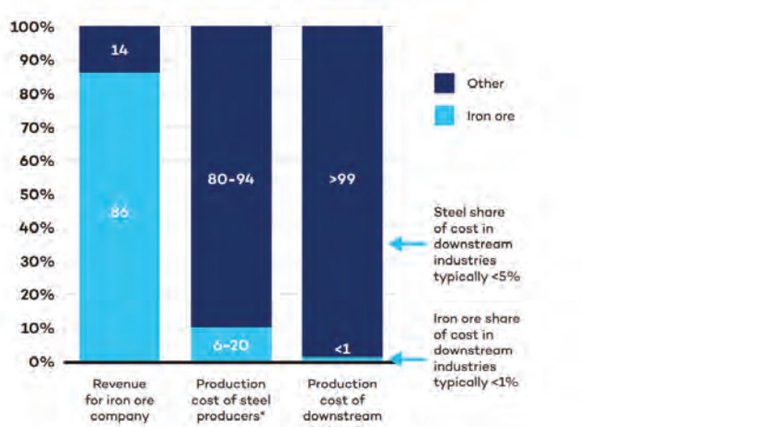

Figure 2, Graph showing that the cost of iron ore is actually as low as 6 per cent of the ultimate cost of producing steel (Anglo American 2011, p.3).

Policy options

This very important caution aside, what are the policy options that countries can consider in order to create in-country value-addition for mineral and petroleum raw materials.

Incentives

Governments may provide incentives for private sector companies to invest in downstream beneficiation facilities. For example, they might offer tax exemptions for a company if they build and operate a gold refinery, or reduced prices for electricity. Some of these incentives may be granted to an extractive industry company that is producing the raw product to be beneficiated, where such a company could get a tax reduction if they themselves invest in facilities to add value to the product (Toledano and Maennling 2018a: 10). In theory, tax credits could be provided to an extractive industry company for processing the raw materials, but an analysis in 2017 by Olle Östensson and Anton Löf found no current examples (2017: 15)

One example of the use of incentives from SADC countries is the Mozal Smelter in Mozambique. The county's experience is useful in comparison to China, a prominent copper processor. To encourage investment into an aluminium smelter, the Mozambique government allowed BHP to pay no taxes, and to purchase electricity – 60 per cent of the input cost for aluminium on average – from the South African state utility company Eskom. Mozambique did indeed achieve its goal of creating a major aluminium smelter, but critics have pointed out that the lack of tax revenue and the payment of electricity tariffs to a South African company mean that very little of the economic benefits have stayed in the country. A similar scenario is present with Namibia's Namzinc refinery works, which also relies on tax-free status and buys power from South Africa (Grynberg and Sekakela 2016: 52). This raises the opportunity cost question – even if Mozambique and Namibia were successful in creating some economic benefits through their policies to achieve these smelters, it is likely a similar amount of focus and resources on backward linkages would have created more jobs and more tax revenue.

A more successful example is China in its processing of copper, where copper processing facilities have been subsidised with direct grants, subsidised loans, and tax incentives (Grynberg and Sekakela 2016: 21). However, these individual incentives cannot be seen in a vacuum. Due to its huge building needs and electronics industries, China also has a huge domestic market to purchase the finished copper products – something to keep in mind in terms of what markets may grow in Africa with the AfCFTA. Most Chinese copper production is also owned by the state, allowing for the refining facilities to be controlled in a way to

meet other policy objectives. The key point is that it is not simply one policy to support forward linkages – it is a wider industrial policy with several components, and also one that benefits from hugely advantageous preconditions, including a substantial domestic market that will purchase offtake.

Protections

Governments may also offer protections to processing operations for extractive industry outputs, through customs tariffs and import restrictions on the products being processed. For example, starting in the 1920s, Australia used tariffs and import restrictions to protect domestic steel producers from cheaper imports. This was combined with other measures, including an export ban on raw iron from 1938 to 1960. However, as discussed before, once China and other countries built up their own steel production, Australian steel producers like BHP were uncompetitive and could no longer compete without government protections. When such protections ended in 2011, the industry began to decline and now mostly supplies the domestic market (Toledano and Maennling, 2018b) One can conclude that even with great skills and capabilities, the policies must take account of economic realities. It is also worth noting that SADC countries now face more restrictions on the types of protections they can use due to World Trade Organisation (WTO) restrictions, and so governments will need to be creative to achieve these intended effects without violating WTO rules.

Export duties, quotas and bans

A more forceful way to attempt to inspire domestic processing is the use of "prescriptive measures", which include export duties, quotas and bans on unprocessed minerals. The scenario that a mining or petroleum producer will have to pay duties on, or have a limit on how much raw product they can export, is meant to inspire them to invest in downstream processing facilities.

Despite accusations of protectionism, many countries in Africa use export taxes to attempt to increase in-country value addition, and to collect tax revenue. As of 2014, twenty-one of Africa's forty WTO members had in place export restrictions that applied to extractive industry resources (Ramdoo and Bilal 2014: 5). In the SADC region, Zambia has a tax on exports of raw copper concentrate to create more in-country processing. However, it is the high transportation costs of moving raw copper out of the country, not the tax, that makes companies want to do partial processing in-country (Östensson and Löf 2017: 20).

It should be noted that such measures certainly can make a country less attractive for foreign investors who want to avoid such conditions. In this regard, it would appear to make more sense to use such measures when many extractive

industry operations are already in operation, but there remains the risk that the extractive industry company may decide to shut down an already operating asset if they do not have the cash to invest in downstream facilities (Toledano and Maennling 2018: 12). For example, in late 2019, Zambia was forced to end a 15 per cent export tax on raw gemstones because the tax was lowering investment in mining and overall production had fallen (Jamasmie 2019).

In terms of an outright export ban on raw materials, a very high-profile case was Tanzania's ban on exports of raw gold, silver, copper, and other metallic minerals starting in March 2017. The ban did not achieve its goal of having mining companies invest in processing facilities, and raw mined gold simply stockpiled in the country. Production of mined gold slowed and in the end the government ended the ban after a dispute with the largest gold miner, Acacia.

One example that appears to be working after some initial challenges is Indonesia. Indonesia initially introduced a ban on raw nickel exports in 2014 in an attempt to create more refining facilities. However, the country was unable to attract enough investment into smelting capacity in the short term and was forced to reverse the ban in 2017 as raw nickel began to stockpile without enough demand from domestic smelters, and decided that the ban would only come into effect in 2022. However, after achieving more success in attracting investment into smelter capacity, the government in late 2019 announced that the ban would come into effect in January 2020. Fitch Solutions reported in July 2020 that exports of refined metals had grown from $9.3 to $13.4 billion in the previous five years, and that refined nickel exports would continue to grow.

Indonesia illustrates that certain preconditions need to be met for a policy on forward linkages to work. Indonesia had to abandon its ban in 2017 before re-imposing it in 2020, because it had not met those preconditions. In 2017, Indonesia had failed to bring in the investment in smelting capacity, and to secure markets for refined nickel that would attract further investment. The government has now succeeded in ensuring that there will be buyers of the processed nickel. Indonesia has in effect intervened to change the economic conditions for the potential to refine minerals like nickel.

The message is clear that individual policies to create forward linkages on their own have very little prospect of success and need to be part of a wider strategy. Like the Australian example shows with steel production, even with a comprehensive strategy and capabilities, in the absence of certain economic preconditions the overall policy will still not succeed.

Negotiations

In negotiations to create forward linkages, a government negotiates with an extractive industry company and has them invest in processing facilities as part of the agreement. This was the case with the Mozal aluminium smelter in Mozambique, where direct negotiations with the investing partners resulted in tax-free status, and was not a result of across-the-board legislation. However, as discussed above, there are questions as to the real economic benefits that have been created with this smelter, so the strength of negotiations in terms of achieving forward linkages really is dependent on the conditions agreed to.

Botswana provides lessons from its diamond sector. In 2005 it was able to negotiate with De Beers to guarantee that a set number of diamonds mined in Botswana would be allocated to national cutting and polishing companies. Botswana's government then invited international cutting and polishing companies to set up operations in the country, and even though their costs would be higher than in other countries, they would be able to purchase the diamonds from De Beers at a discounted price. Through this and creating a 50/50 joint venture called the Diamond Trading Company, Botswana has achieved significant downstream activity from its diamond mining (Toledano and Maennling 2018c).

A key precondition in Botswana was the leverage the government held in the negotiations with De Beers, due to the reliance of the mining company on the country's large diamond deposits. The company had no option to mine elsewhere and obtain the same quality and quantity of diamonds without huge time and cost. While many countries in Africa want to pursue gem-cutting and polishing activity, it is vital to understand that in most cases, they will lack this kind of leverage. In addition, with diamonds being incredibly valuable and easily transported, marketing and transporting these processed mining outputs is not difficult, in comparison to Zambia's ability to sell processed copper for example.

Bidding

Governments can also attempt to inspire investment in downstream processing by scoring higher bids from extractive companies for the right to extract from concessions if they include plans to engage in beneficiation. This is a relatively rare approach; unless there is an absolutely world-class asset, it is likely that potential investing extractive industry companies will simply choose to avoid investing and prefer jurisdictions where such processing is not required to secure the right to extract. With low petroleum prices likely being the norm going forward, there is even less of a chance that governments will be able to use this approach for the oil and gas sector.

It is also worth noting that there is a real risk that an investing company will make a bid that promises downstream processing, and then not follow through.

This is what happened in the case of government of Afghanistan for the Aynak copper deposit, where a Chinese company won the concession with a bid that included domestic smelting, but after winning this the company has claimed it was not economically feasible to carry through on those commitments (Toledano and Maennling 2018a: 13).

Government-led Investment

Where incentives and other policy options have failed to attract private sector investment in downstream processing of extracted materials, governments may choose to step in to create and hold ownership in facilities. Usually, the government will seek a private sector partner, and their investment helps to encourage a company to take part because they do not have to invest the full amount required.

China is naturally the success story in forward linkages using government-led investment. Even today, the Chinese government owns and operates many of the most strategic facilities that engage in value-addition for extractive industry outputs, and their success in copper beneficiation has always involved direct government involvement in the facilities.

However, it cannot be overstated that very strong, well-resourced states with the right human resources in terms of skills are needed for government to lead such initiatives. Nigeria has spent decades seeking to refine its petroleum through direct government involvement, but it is accepted that a lack of transparency, good governance and management capabilities have prevented success (Toledano and Maennling 2018d).

If there are favourable economic preconditions for the development of processing of products in SADC countries, government-led investment could be a way to pursue this. However, stakeholders in the region will have to consider whether they feel their governments are strong enough in terms of governance and expertise to adopt this strategy, and should not underestimate how difficult such ventures are.

Analysis

Having laid out the policy options that SADC countries might pursue to create in-country value addition for their mineral and petroleum raw products, countries with the most success in creating forward linkages have done so by utilising favourable economic preconditions, and by making forward linkages around raw commodities part of a larger industrial strategy. One of the most crucial of those preconditions for SADC countries is the presence of off-take. The reason Australia can no longer produce steel in large amounts is because countries that might want to purchase it, such as China, already produce their own steel. This is important in a country like Zambia which produces a huge volume of raw copper, but where there is insufficient local or regional demand to turn it into processed copper. In addition, negotiating offtake agreements requires a strong institution to market the product and to seek customers. Any SADC country currently considering pursuing forward linkages really needs to confirm the presence of a secure and reliable market for the outputs, as well as the administrative and governance abilities to secure it.

The key lesson is that perhaps even more for forward linkages than backward linkages, the scale and complexity of value-addition to extractive industry raw outputs requires an all-of-system approach.

It is not simply putting in place one policy such as an export ban or subsidising one smelter. Japan organised a huge multi-stakeholder effort for its copper beneficiation plans, as China later did. SADC countries need to take time to evaluate whether their institutions are strong and capable enough to manage this approach. And, very importantly, they must evaluate whether in the short to medium term they would accomplish more economic development goals by focusing on backward linkages instead.

Shared infrastructure

Background

Shared use of infrastructure used in mining, oil and gas is one way in which a host country can leverage extractives activity to benefit wider economic goals, contributing to much-needed infrastructure in SADC countries. McKinsey Global Institute estimated that between 2013 and 2030, as much as $2 trillion of global extractive industry infrastructure could find advantage in shared use models (Natural Resource Governance (NRGI 2015: 2). Sharing can take many forms. Shared use includes multi-use approaches, where several extractive companies use certain infrastructure (such as coal mines sharing a railway, or gas producers

sharing a pipeline), or multi-purpose, where non-extractive users such as agriculture or local communities also use the infrastructure in question (NRGI 2015: 2). While both approaches should be encouraged, this section will focus on the multi-user approach, for the benefit of the state economy and meaningful inclusion of low-income citizens of host countries.

An example of what shared infrastructure can look like is found in the case of Fungurume, Katanga, Democratic Republic of the Congo, where Tenke Fungurume Mining company, helped improve the state of a provincial road to the town of Lubumbashi. The construction of the road greatly reduced the travelling time to and from Lubumbashi. A new market formed, making it possible for traders to reach Fungurume, and providing farmers with a new avenue to sell their produce. The community benefitted from increased income opportunities, reduced seasonal food access fluctuations, and lower local food prices. Some of the negative impacts associated with mining projects in the region have been mitigated (Östensson and Roe 2013: 6).

The ownership, operations, maintenance, and financing of infrastructure can be conceptualised along a spectrum, where on one side a single extractive industry company executes all four components, while on the other side, external factors such as the host country government is involved in all of these components. Third parties such as local companies, NGOs, and civil society can also be involved, often encouraged by state regulations making room for shared access. Many hybrid models exist along the spectrum between these two extremes, where multiple stakeholders work together to construct and deliver shared use of infrastructure. These four components are key to considering what shared arrangement will work best in a given context. For example, when considering financing, a company owning infrastructure could be valuable due to their role in paying for the initial high costs of constructing the infrastructure, and then keeping the costs low and the service reliable. To avoid monopolisation of the infrastructure, the government could implement a build-operate-transfer (BOT) system, where ownership transfers to the government after a prescribed time while still leveraging shared use of the infrastructure while the ownership is private (NRGI 2015, p. 3).

The business case for companies, where sharing will reduce costs to some degree, will usually drive cooperation and support. Social license can also act as a primary motivator to enter into a shared infrastructure agreement. The business case will vary depending on the type of infrastructure in question. For example, the appeal of a shared arrangement for rail and port infrastructure depends on a global increase in demand for deposits of minerals that have previously been considered too risky or not profitable enough to invest in. Funding such infrastructure can cost up to three times the cost of mining itself, and so options for shared development of a railway line can be a valuable proposal (Toledano, et al. 2014: 12).

When analysing extractive company considerations, one must also account for competition between companies. Even in instances where it might make financial sense to share infrastructure, if such sharing provides an advantage to regional competitors, a company's competitive advantage may be put at risk. Strong policy guidelines will be needed in these circumstances in order to ensure extractive company confidence in the arrangement (Toledano, et al. 2014: 7).

As for considerations of the host country, government should assess whether prioritising a shared access agreement is worth the revenue lost through tax cuts that will be needed in order to incentivise the shared plan. Implementing shared use varies in expense, depending on the type of infrastructure and the certainty of opportunities it can provide. Opening access to rail, for example, is much more expensive than information and communications technology (ICT). Costly shared-use projects must be supported by policies that will encourage demand for the infrastructure if the investment is to be worthwhile, which is not always easy to achieve. In cases where the investment is not worth the foregone tax revenues, there are compromises that governments can consider, where less intense arrangements can be made. For example, strengthening social licence prospects might be an attractive proposition for an extractive company that agrees to finance smaller access projects for nearby communities, such as cell phone reception or drinking water access. In another example, a government could arrange takeover rights to a railway line at mine closure and maintain their tax revenues during the project (Toledano, et al. 2014: 6).

The value of an informed, contextual decision cannot be understated; one that can account for current demands and evolving economies to ensure long-term viability. It is also a possibility that, in a given context, sharing use of infrastructure might not be the best choice at all.

Mining typically requires more infrastructure investments than oil and gas and therefore provides more examples (Östensson 2017, p. 16). It is important to note that offshore oil presents a unique set of circumstances and is less suitable for the common sharing opportunities listed below.

Policy Options

The following section accounts for ownership, operations, maintenance, and financing of infrastructure, providing an overview of options for when a) these four components are primarily being executed by an extractive industry company, or b) when these four components are being delivered by the state or other local third-party providers.

Extractive company as the driver of infrastructure development and maintenance

The first set of policy options revolve around the extractive industry company self-generating its own power, self-supplying its water, self-providing ICT and so on. Reasons for a company driving its own infrastructure needs include a) an insufficient or unreliable supply of the resource in question in the region; b) insufficient or unreliable infrastructure to distribute the resource in question; or c) the supply of a given resource by an external party is too high in cost. This is likely to be the case in particularly remote regions (Toledano, et al. 2014). If current opportunities – such as opening access to other sectors, or to communities – are not present, one could consider allowing the extractive industry company to manage all aspects of building and operating the infrastructure. It is advised that regulations ensure a framework for renegotiation to allow flexibility in the future if economic prospects present themselves. In the case of rail and port, for example, this could take the form of a sunset clause or keeping the right of way and land ownership on either side of a railway, which could be utilised for opportunities such as building ICT lines (Toledano, et al. 2014: 7).

Peru offers a case study for this initiative. In 2011, Telefonica del Peru and Compañía Minera Antamina signed a partnership to increase mobile service to neighbouring mining communities in Peru. Antamina had built a 304km copper and zinc concentrate slurry pipeline system as part of needed transportation infrastructure. A fibre-optic network was also needed along the route to carry important pipeline monitoring information. Telefonica was therefore able to take advantage of this existing infrastructure to provide telecommunications services to the Huaylas and Conchucos areas (Toledano and Roorda 2014: 7).

If there are communities nearby that could benefit from the infrastructure, a host government can incentivise or regulate a company to open access to an identified area. For example, a company that self-generates power could be required or incentivised to supply energy to surrounding rural communities. This could take shape in agreements to directly source power, or the establishment of new systems such as a mini grid. The responsibility could fall completely on the extractive company, but could also be designed to include partnership with donors, NGOS, and utility companies. In cases of collaboration, coordination of all actors must be clearly established and realistic for efficient execution (Toledano, et al. 2014: 38).

There will also be cases where an extractive industry company has excess supply of a given resource or could easily increase their supply at little cost to generate excess. Using the case of power again, the government can incentivise or regulate the company to sell that power back to the grid. This model can be adapted to most infrastructure types, such as supplying treated water for little extra cost to

a community. For example, in 2007, multiple mines (including some closed mines with substantial groundwater present) were located in the Witbank coalfields on the outskirts of eMalahleni, South Africa. The eMalahleni Local Municipality, which was facing difficulty meeting water demand, partnered with Anglo American's AngloCoal and BHP Billiton to build the eMalahleni Water Reclamation Project (EWRP). The project required the construction of pipelines to transport water, as well as the construction of a treatment plant and two reservoirs, in part financed by the potable water sold to the communities. The project has also made room for other industries to benefit, such as Anglo Zimele, a beverage company that uses the plant's water (Toledano and Roorda 2014: 20).

This is not necessarily the case for ICT due to its complex nature, and it is unlikely that both access to infrastructure and service provision by an extractive industry company is possible. For example, if a mine funds the establishment of a satellite antenna, telecom providers would still be needed to provide services that reach a community (Toledano, et al. 2014: 75). Conditions for success include introducing the requirement to access certain elements of company infrastructure in the design phase of the project; ensuring that it is financially viable for the company to do so; and ensuring that any other actors involved in distributing the resources through further infrastructure development are credible and stable (Toledano, et al. 2014: 43).

Government investment and involvement in infrastructure development and decision-making can take multiple forms.

> The extractive industry company could agree to enter into a collaborative agreement to expand water infrastructure to surrounding regions if supported by government and other investors.

There are also cases where companies may directly seek government investment in building the infrastructure that they need, and concerns about stranded assets without government support. In these cases, even when there are no current sharing opportunities for the state to leverage, the government can take the opportunity to become meaningfully involved and increase its influence. Models such as a special purpose vehicle (SPV), acquiring an equity stake, or requiring a golden share all provide the government with a voice in the decision-making processes for the infrastructure in question (Toledano, et al. 2014: 26-27).

Extractive industry as a customer

The second scenario involves an extractive industry company utilising infrastructure owned by the government or a third party to meet their demand for rail, water, power and so on. A local authority can facilitate the use of infrastructure

if reliable construction and maintenance can be confirmed, along with low cost. The benefit that this scenario provides is that the local infrastructure authority can benefit from having a consistent and substantial anchor customer to grow its reach and customer base (Toledano, et al. 2014: 59). In cases where access is sought by remote communities, an extractive industry project developed nearby is a crucial way to transform servicing ICT, water, and other resources into viable economic investments in an otherwise remote, unconnected area (Maennling, Shah and Thomashausen 2014: 71).

National versus regional focus

This brief primarily draws on in-country shared use of infrastructure due to its higher rate of successful implementation. However, regional cases are also worth mentioning. Regional shared infrastructure projects in extractive industries are harder to achieve and there are few examples in the literature. They are difficult to mobilise due to complex competing priorities of the countries and companies involved. An example can be found in the iron ore deposits in Guinea, which for years faced serious challenges building the necessary rail and port infrastructure to access the market. Companies like Rio Tinto poured billions of dollars into building railways that faced serious challenges, despite backing from Chinese partners (Hume 2019). Building a railway to the coast of Guinea was the only option acceptable to government, despite a port in Liberia being less than half the distance away, with the World Bank estimating cost savings of going through Liberia at US$1 billion over a twenty-year period (Toledano, et al. 2014: 30). This requirement to build the railway through the country, and not instead allow companies to export through neighbouring Liberia, has caused significant delays in the country utilising its iron ore endowments. Several agreements were made in the past decade, including a memorandum of understanding which eventually led to an economic cooperation deal signed by Guinea and Liberia in 2019, which would allow several mines in Guinea to export through Liberia's port (including the large Nimba iron ore project). These mines then still needed to negotiate with ArcelorMittal, the sole rail concession holder in Liberia, who raised concerns about ensuring that their materials were given priority if the rail was shared (Samb and Reid 2019). The deal was selective and excluded sites such as the two billion tonnes of high-grade iron ore found in the Simandou deposit, the rights to half of which is owned by the China-backed consortium SMB-Winning as of 2020, and which has been restricted to building a 650-kilometre railway to the Guinean cost (Hume 2019). As can be seen from this example, while regional shared infrastructure can provide opportunities to all countries involved, executing these projects in such a way that all stakeholders meet their priorities proves to be challenging.

Analysis

The following section will outline key success factors for government implementation now that policy options have been described.

Strategic planning

Shared use of extractive-related infrastructure will work best if accounted for within a wider, long-term strategy for national economic development, in addition, planning must begin early. Sharing agreements are most effective if established at tendering or contract negotiation phase. If existing infrastructure already has a single user, it will be significantly more challenging to adjust to shared use (NRGI 2015: 3). Strategy is also important to avoid issues. For example, sharing one type of infrastructure could increase demand or costs for another type of infrastructure, such as a new railway increasing demand at a port, which could cause bottlenecks if not managed properly. Finally, in the case of extending services to local communities, the government must confirm that there is not only a demand from the community for this service, but that either the community is willing and able to pay the estimated price for the service, or that the budget is there to subsidise appropriately (NRGI 2015: 3). The case of Liberia and its Telecommunications Act is a good example of a government policy which includes stipulation on co-location:

> (1) If not otherwise addressed in interconnection or access terms determined pursuant to Sections 34 to 38, and subject to any regulation, rule or order issued by the LTA, service providers with existing telecommunications network facilities shall allow other service providers to co-locate their telecommunications network facilities on those existing facilities… where such co-location is technically and economically feasible and where no significant additional construction work is required. (Liberia. Telecommunications Act of 2007)

Furthermore, government is also key when avoiding enclaves and duplication of infrastructure by coordinating projects within and across sectors and facilitating discussions on potential collaboration. In Australia, for example, three mining companies all constructed railways near each other due to a lack of foresight by government in the approval processes (NRGI 2015: 2) creating unnecessary, underused infrastructure.

Transparent monitoring and enforcement

The host country must consider what body will be responsible for establishing and enforcing the regulations for shared-use infrastructure, along with other

tools such as dispute resolution mechanisms. Many countries have shared-use laws but lack a strong legal enforcement mechanism.

> Transparent processes are important in developing willing collaborators, as sharing terms and conditions that make space for effective synergies to form.

Building information sharing into the monitoring of projects alongside enforcement can promote a general understanding of current and future opportunities (Toledano, et al. 2014: 85).

In sharing agreements that include the community, the community must remain an equal user. It is important that cases where a national or third-party local infrastructure authority begins supplying to an extractive industry project or begins a sharing arrangement with other companies in parallel sectors, that the rights to proper service by communities are not lost. For example, a mine could become the prioritised customer of a national utility, compromising consistent access by the community. Furthermore, opportunities for meaningful community involvement in infrastructure development, such as a transition plan for local people to manage or own a facility, should always be considered. This option is useful in cases where there may not be a credible authority supplying a resource such as water, and where the community could be appointed to oversee the water supply's operation (Toledano, et al. 2014: 68).

Conclusion

This report has provided an overview of the different policy frameworks for local content that SADC countries can consider, as well as illustrative examples from the region and beyond. From these policy options and examples, we can draw some conclusions that all countries should pay heed to, both for mining and oil and gas.

For backward and forward linkages, local content strategies are most effective when they represent a comprehensive strategy with a mix of policies, including active support for the companies involved. For example, in promoting backward linkages it is not enough to simply require extractive industry companies to purchase locally using targets, or to make them provide local procurement plans. Without supply-side measures to build up business capacity to competitively supply goods and services, the extractive industry companies can only do so much on their own. Nigeria has for this reason achieved more success with oil and gas than South Africa has with mining, because the direct targets placed on companies were supported by a wide variety of supply-side policies, including the provision of finance through the NCDF.

Likewise, for forward linkages, even when economic conditions are favourable for the potential production of a processed product, the large-scale and relative risk involved in setting up facilities such as smelters and refineries means that a comprehensive approach is needed, including government efforts to market products and negotiate offtake agreements. Japan and China both had an all-of-system approach for refining copper. By contrast, in both Tanzania (in its attempts to process gold), and Nigeria (in the refining of oil), government relied on only one or two policies disconnected from a wider strategy.

This necessarily means that the capacity of the government is vitally important, particularly when it comes to coordination and negotiating skills. Countries such as Nigeria have had relative success in creating backward linkages, and Indonesia and Japan have created forward linkages, largely because the government matched individual policies with strong state systems to coordinate, monitor and adjust. By contrast, weaker states relying on only one or two individual policies, have experienced far less success. This is essential for the SADC countries to understand as many of the policy options provided here are unlikely to succeed until the government invests in its own capacity to carry them out.

This paper has shown that in most cases in the SADC region it will make more sense to focus on backward linkages rather than forward linkages in the short to medium term. Not only are the economic preconditions difficult for the processing of raw materials, particularly due to the lack of regional demand for the products (from copper to polished gemstones), but for most countries there are more effective ways of creating jobs and government revenue by focusing on backward linkages. Botswana's successful experience with diamond cutting shows that there are exceptions to this, and by no means should SADC countries entirely avoid investigating potential opportunities, but there are likely to be only a small number of particular products across the region that will make economic sense.
For infrastructure linkages, the picture is highly dependent on the type of infrastructure and local conditions, so it is difficult to provide specific conclusions regarding the merits of the different policy options and sharing arrangements. However, similar broad principles to those for both backward and forward linkages are still relevant. Governments need very detailed information to decide what will be the correct policy approach, and they must have the capacity to negotiate. As much as possible, attempts to create shared infrastructure should be positioned as part of a wider economic development plan, rather than standalone efforts.

Recommendations

SADC countries, with few exceptions, should prioritise efforts to create backward linkages over forward ones in the short to medium term. In most cases, across SADC countries the opportunities are greater in backward linkages, easier to pursue, and create more meaningful benefits.

Policies to increase local procurement of goods and services by extractive industries should focus on goods produced domestically, rather than imported and resold, and services provided by businesses with non-expatriate management and employees.

Whether using targets, lists or requirements for local procurement plans from extractive industry companies, regulations should focus on a targeted list of goods and services rather than the aggregate procurement spend. This allows both better targeting of supplying opportunities, and an increased ability to track and monitor progress.

SADC governments should invest heavily in their ability to understand, monitor, and target realistic procurement opportunities. The ability to set the right targets, select the most appropriate goods and services, and work with extractive industry companies on local procurement plans, all rests on having a strong government capacity. Creating and supporting a well-resourced local content board or other forms of coordinating body is essential.

Demand-side policies for local procurement need to be matched with significant investment in supply-side policies to build the capacity of domestic suppliers, including the use of supplier development programmes, ensuring access to finance, and the use of supplier portals to connect businesses to extractive industry buyers.

SADC countries require detailed information on procurement needs and the current levels of goods and services being procured, and so should require public reporting on extractive industry procurement processes and spending figures. Such required reporting can be requested in accordance with the Mining Local Procurement Reporting Mechanism (LPRM), and the information can also be integrated into the Extractive Industry Transparency Initiative (EITI) process for SADC countries who are part of the initiative.

SADC governments should still consider the long-term prospects of forward linkages but gain a full and detailed economic analysis for each individual potential beneficiated product before implementing any policy. They should consider the potential for forward linkages only for one or two potential products, rather than

a generic strategy applying to all extractive industry outputs.

If efforts are made to create forward linkages, they should be all-of-system approaches rather than single policies (like export restrictions), and should only proceed when a guaranteed market has been secured for the targeted processed extractive industry outputs. Both Japan and China's experience in copper beneficiation should be looked at as models of such an approach.

> Governments should not accept that they have no ability to influence the economic pre-conditions that may allow or prevent a realistic opportunity to create forward linkages.

Botswana (in the case of diamonds), and Indonesia (in the case of refined nickel) show that in very specific circumstances forward linkages can be successfully created.

SADC governments should play an important role in strategic planning of shared use of infrastructure by coordinating objectives and identifying opportunities across sectors. Without foresight, resources are likely to be spent inefficiently, leading to unnecessary spending by stakeholders, and a loss of economic opportunity for the host country.

SADC countries should embed information sharing and monitoring into their agreements with extractive industry companies. This information will ensure that opportunities can be understood and properly leveraged.

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SARW
Southern Africa Resource Watch

SARW Objectives

Monitor corporate and state conduct in the extraction and beneficiation of natural resources in Southern Africa, and assess to what extent these activities uplift the economic conditions of the region's communities.

- Generate and consolidate research and advocacy on natural resource extraction in Southern Africa.
- Create informed awareness of the specific dynamics of natural resources in Southern Africa, building a distinctive understanding of the regional geo-political dynamics of resource economics.
- Provide a platform of action, coordination and organisation for communities, activists, researchers, policy-makers, corporations, regional and global governing bodies in the watching and strengthening of corporate and state accountability in extractive industries.
- Engage with and support government on building accountable and transparent management of extractive resources.
- Build capacity for communities, civil society, parliaments, and media to hold governments and corporations to account, and to participate in decisions about resource management.
- Advocate and promote human rights and environmental protection in resource extraction activities.
- Support efforts to legislate mandatory public disclosure of and access to financial, social, environmental and regulatory compliance information in the extractives industry.
- Promote extractive industries that create wealth for local communities.

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