

CHAPTER 9 – www.eisourcebook.org

9.2 Challenge 1: Leveraging EI Investments for Development

9.2.1 The Problem

Substantial research and debate has focused on the role of public policy in leveraging EI investments so that they create long-term benefits to the host country¹. To some extent this level of interest is a reaction against a period of thinking about development in which the dominant policy objectives, recommended and often followed, were the attraction of inward investment and the use of oil, gas and mining resources as a way of generating revenue. The results of that narrowly economic focus are not generally regarded as having established a springboard for development².

Instead of offering a range of benefits, extractives operations have all too often acquired an 'enclave' character. They have been located in remote inland or offshore places far from the major population centres, and the economic development they have generated has been limited to a very tightly defined geographical area around the project. Moreover, the project has often involved a single company or consortium, managing a particular operation that is overwhelmingly dominant in the national economy.

Against this tendency (which never had anything inevitable about it), the focus among governments and their advisers has shifted to finding ways of embedding the extractive activities in the evolving local economy, guided by broad plans for economic growth in the countries that host them. The *African Mining Vision* has been a seminal document in this evolution in thinking. It is based on the idea that the mining sector in Africa has to be evaluated on a regular basis in terms of its contribution to long-term development goals. It is a small step from this to giving greater weight to the use of extractive industries like mining to assist in the development of economic linkages and diversification. *The assumption, sometimes explicit but always present, is that the extractives industries have the potential to provide this leverage for development purposes. However, to achieve sustainable and long-term benefits, these need to be consciously identified and pursued.*

¹ Some examples would include: McKinsey Global Institute (2013), *Reverse the Curse: Maximizing the Potential of Resource-Driven Economies*; NH Barma, K Kaiser, TM Le and L Vinuela (2012), 'Rents to Riches', particularly chapters 5 and 6; AU Commission and UNECA (2011) *Exploiting Natural Resources for Financing Infrastructure Development: Policy Options for Africa*; the OECD Development Centre's 'Perspectives on Global Development' and the 'Guiding Principles' issued by the World Bank, which touch on the subject of mine-related infrastructure; the International Finance Corporation and Public-Private Infrastructure Advisory Facility: 'Fostering the Development of Greenfield Mining-Related Transport Infrastructure through Project Financing', April 2013: Washington DC, World Bank, PPIAF.

² This dissatisfaction is documented in many sources from the governments themselves, most notably in the *African Mining Vision* (see also cited in **Chapter 2**).

Example: The development of a mining project can depend crucially on large-scale investment in infrastructure, including transport, power and water supply. In landlocked countries this is likely to be particularly challenging. In a country like Mongolia with the lowest population density in the world after Greenland, and with distances that are vast and transport networks that are minimal, infrastructure acquires enormous economic and social significance. The export of large quantities of copper and coal becomes impossible without a substantial upgrading of transport capacity. In turn this offers the prospect of substantial externalities, if the parties can agree on an equitable formula.

9.2.2 The Tools

What policies and practices (both public and private) should be adopted to promote sustainable development at the local level or perhaps at regional or national levels?

A key consideration in answering this question is the stage that the extractive industry is at in the country concerned: is it established, being established or yet to be established? To illustrate: in African terms, this is the difference between Nigeria, Mozambique and Kenya.

CEPMLP

Centre for Petroleum and Mineral Law and Policy

Job creation and the growth of small and medium sized businesses are central components of the promise of extractives-led development. Without them, oil, gas and mining activities cannot act as a springboard for diversification and wider development. They counter the enclave character that has historically seemed to be an inevitable feature of EI operations, with staff, goods and services brought in from abroad, and with limited impacts on the domestic economy. As a response, a policy of local content seeks to create value added anywhere in the domestic economy, as a result of the actions of the foreign investor. *It has grown in popularity to such an extent that it is now a central policy aim of most governments in resource-rich economies.* However, there is considerable debate about the most appropriate instruments to use to achieve it, and even the very definition of it. A company may be deemed to be 'local' according to its place of registration, the percentage of local ownership, the presence of nationals on the company's board and among its shareholders, or its workforce or value-added activities carried out in the country. There is a spatial dimension too: how local is local content? Does it ultimately mean 'national'? In most local content laws such as those in Nigeria, Ghana and Kenya, the term 'local' in local content is not defined. In the Nigerian Oil and Gas Industry Content Development Act 2010, Nigerian content is defined as "the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the

deliberate utilization of Nigerian human, material resources and services in the Nigerian oil and gas industry". The Ghanaian Petroleum (Local Content and Local Participation) regulations 2013 are less clear, favouring "locally produced materials" in their definition, but a national perspective appears to be the intention rather than the subnational locality or region where the oil and gas activities occur. The risk from this approach is that the investor will fail to obtain a social licence to operate. Instead, the focus could be on 'community content' described as "the interface between community investment programmes with local content"³. As a sub-component of a local content policy, it may generate local community preferences in employment and procurement.

There is no universally agreed definition of local content; at best, it will be country-specific, but even then there may be variation. Nor is there any generally agreed body of good practice in local content although that may not be far away.

Experience to date has often been disappointing. With only a few exceptions, such as Norway and Canada, the extractive industries have *not* proved to be engines of job creation for local people and have created few links to local firms. Much recent research has focussed on why this should be so and why in particular instances local content policies and laws have not met expectations. This section reviews in a summary manner the main features of local content policies and practices.

What it includes Allowing for a wide variation from country to country, *the two broad categories of local content normally sought by a host government are: local procurement and capacity building*. Within these categories two further distinctions may be drawn: between upstream and downstream linkages. The first of these involves the promotion of local firms in the supply chains of foreign investors, the increase in local firms' capacity in fields which often involve specialist skills and the development of clusters of economic activity that are not resource-dependent. The second dimension involves activities such as processing and refining, and even the use of the resource, particularly if it is coal, gas or oil, to build local industry.

Objectives Usually, local content objectives are characterised by one of two features:

1. Those which set specific minimum targets; and
2. Those that set flexible goals.

Objectives are typically set for local employment or suppliers in the form of *minimum targets* for the employment of local labour. In Angola's petroleum sector, for example, companies are required to ensure their workforce consists of at least 70 percent of Angolan nationals. Foreign workers may not be hired except in circumstances in which no national worker with equivalent qualifications is available. Tanzania takes a different approach. If a

³ Michael Warner, 'Community Content: the Interface of Community Investment Programmes with Local Content Practices in the Oil and Gas Development Sector', Policy Brief Note 9, 2007.

foreign national is employed in the petroleum sector, a succession plan has to be submitted along with the work permit application so as to ensure that a Tanzanian national ‘succeeds’ to the job. Targets may be extended to senior managerial positions and be reserved for nationals. A specific percentage may be reserved, as in Ghana where, for a company to be treated as indigenous, no less than 80 percent of its executive and senior management positions have to be held by Ghanaian citizens.

In a Liberian mining contract, the targets are also fixed. It requires the parties to

“agree on progressive implementation of an employment schedule so as to cause citizens of Liberia to hold at least 30 percent of all management positions, including 30 percent of its ten most senior positions, within five years of the Effective Date, and at least 70 percent of all management positions, including 70 percent of its ten most senior positions, within ten years of such date”⁴.

Similarly, in Mongolia, the OT Agreement (2009) requires “not less than 90% (ninety percent) of the Investor’s employees will be citizens of Mongolia”. This does not extend to sub-contracting however, where the investor is only required to use its ‘best efforts’ to ensure that at least 60 percent of construction employees and 75 percent of mining-related employees are Mongolian citizens⁵.

As an example of flexible goals, the Afghanistan-Qara Zaghan (2011) contract requires the investor to “employ Afghan personnel, to the extent practicable in all classifications of employment, for its Gold Production Facilities construction and operations in Afghanistan”⁶.

Objectives are also set for local participation but may be expressed as preferences or mandatory requirements. Usually, foreign companies will be required to form partnerships with local entities, but further conditions may be imposed. In Uganda, for example, if goods and services required by the investor are not available in the country, they have to be obtained from a company that has entered into a JV with a Ugandan company, which in turn must have a minimum stake of 48 percent in the JV.

Preferences may also be invited for the procurement of local goods and services to boost local supply chain development. However, this is usually accompanied by the condition that such goods and services are of comparable quality and quantity to international materials and services and that the price does not exceed that of foreign goods and services by a certain percentage. In Africa, such conditions are found in Angola, Mozambique and Kenya. In Nigeria, local service companies are required to have exclusive treatment if they can demonstrate that they possess the requisite capacity.

⁴ Liberia-China Union (2009), Article 11.1 (a).

⁵ Articles 8.4 and 8.5.

⁶ Article 14.1.

Local content is an example of a policy where various stakeholders have a common interest. Governments seek to maximize the number of jobs created by the extractives activity and to introduce new skills, know-how and technologies into the local economy. Investors have a shared interest in generating local jobs, skills and industry. There are also complementary interests among the private and public sectors in areas such as training and access to finance.

9.2.2.2 Instruments: how to achieve Local Content

Policies Some governments include commitments to local content in broad policy statements. Ghana, for example, has a Local Content and Local Participation in Petroleum Activities Policy, setting out its strategies on how the Government intends to develop the oil and gas industry in these areas. In practice, these broad policies are to be understood in combination with regulations and investor-state agreements such as concessions or production sharing contracts, which usually contain the legally binding requirements on local content, such as the preparation of a detailed plan.

A risk of legal measures to promote local content is that they conflict with the requirements of international economic law, whether this is WTO rules or the provisions of a bilateral or multilateral investment or trade agreement. This will depend on the circumstances of the country concerned. There has been research into the various barriers that local content regimes can erect and why they may invite a response from the WTO⁷. At the same time, this research suggests that WTO rules impeding the application of local content policies are rarely enforced.

Legislation Two kinds of legislation are typically used in giving a legal form to local content (but not necessarily together)⁸. Some countries have specific local content legislation to implement local content policies. In practice, this is done in the oil and gas industry but much less so in mining, where the contract instrument is preferred. An example of this in the oil and gas industry is the Nigerian Oil and Gas Industry Content Development Act 2010 which applies to all transactions or operations carried out in Nigeria's oil and gas sector, and to all operators in it.

⁷ For example, see 'A Proposed Code to Discipline Local Content Requirements, a Policy Brief by Cathleen Cimino, Gary Clyde Hufbauer and Jeffrey J Schott, Peterson Institute for International Economics Policy Brief No PB14-6, February 2014: <https://piie.com/publications/policy-briefs/proposed-code-discipline-local-content-requirements> (last visited 11 May 2016) On this topic see also: Rabiu Ado, 'Local Content Policy and the WTO Rules on Trade-Related Investment Measures (TRIMS): The Pros and Cons', (2013), 2:1 International Journal of Business and Management Studies 142.

⁸ For examples of local content laws and contractual provisions see the CSSI website: <http://ccsi.columbia.edu/work/projects/local-content-laws-contractual-provisions/> (last visited 11 May 2016)

There are four main objectives in Nigeria’s specific legislation:

- Development of indigenous skills across the oil and gas value chain;
- Promotion of indigenous ownership of assets and use of indigenous assets in oil and gas operations;
- Enhancement of the multiplier effect to promote the establishment of support industries; and
- Creation of customized training and sustainable employment opportunities.

Alternatively, there may be local content-relevant provisions in sector legislation, usually in rather general terms. For example, countries that have broad local content provisions for mining set out in their national legislation are Indonesia, South Africa and Zimbabwe. Under Indonesia’s Mining Law (2009) companies are required to give priority to local employees and to domestic goods and services, and to divestment of foreign shareholdings in local companies after five years of production. The Law also contains provisions to encourage development of processing and refining of mining products in Indonesia, with the promise that “the extent of the required local processing and refining are to be specified in the implementing regulations” (Arts 95-112 and 128-133)(discussed below under **Beneficiation**).

Regulations may also be issued to clarify the provisions in the legislation. These may be specific local content regulations or sector regulations that contain specific local content obligations. Sub-national governments may also set and enforce local content-relevant regulations, although that is unusual.

These linkages can also be promoted by regulatory controls and project approval requirements. Local content plans can be required as part of broader economic development plans.

Contract Many extractives contracts between investors and states include requirements to maximize the economic opportunities from investment (see **Chapter 4**). The goal is to ensure that the extractives activity is aligned to sustainable growth and development. Typical provisions in a contractual clause would include requirements:

1. To promote participation by local firms (supply chain procurement);
2. To hire nationals for certain tasks (employment); and
3. To provide programs of skills-enhancement (training).

It is less common for the contract to require the investor to provide for downstream linkages, as in processing of minerals for example. Such development linkages may be desirable but nevertheless prove to be not economically viable. This important consideration is evident in a provision of the Mongolia-Oyu Tolgoi agreement (2009), which states:

“3.19 Within 3 (three) years after the Commencement of Production, the Investor will, if requested in writing by the Government, prepare a research report on the economic viability of constructing and operating a copper smelter in Mongolia to process mineral concentrate Products derived from Core Operations into metal (the Smelter) ...

3.20 If the Government either alone or in conjunction with others or a third party plans for the construction of a Smelter in Mongolia, the Investor will, if requested in writing by the Government, provide on agreed terms, with preferential access, Rio Tinto’s (or its Affiliates) Proprietary Technologies held in joint venture with Outokumpu, for the operation of the Smelter.

3.23 If the Investor constructs a Smelter in connection with implementation of the OT Project, that smelter will be in Mongolia”.

This highlights the importance of design in local content provision. Downstream linkages can be highly capital-intensive, yielding low profitability for the investor. For countries with little comparative advantage (lacking inexpensive energy; proximity to the market for the finished product, or skilled labour or a stable currency), it may make no sense at all to seek to persuade an investor to embrace such linkages, and instead rely upon the more familiar upstream ones.

Investors will seek to identify whether parties to contracts such as PSCs such as NOCs or national privately owned companies with political connections can exert additional leverage on the pursuit of local content objectives.

The ambiguity of some approaches to enforcement is evident from the Mongolian OT contract (2009) which imposes fines on the company if it hires too many foreign employees (Article 8.7):

“If the Investor employs more foreign nationals than the specified percentage set forth in Clause 8.4, the Investor shall pay a monthly fee of 10 (ten) times the minimum monthly salary for each foreign national in excess of the specified percentage”

However, the contract also states that a breach of local hiring requirements will not constitute a breach of the overall agreement and cannot be used by the government as a ground for terminating the contract (Article 8.9).

9.2.2.3 Community Development Agreements (CDAs)

Local Content requirements can be built into agreements reached by mining companies with local communities. These can be dedicated agreements such as are found in Australia and Canada, or community development agreements (discussed in **Section 9** below). Investors will be keen to learn if they are expected or required to commit to CDAs or similar benefit-sharing agreements with local community organisations or specific socio-economic groups.

9.2.2.4 Industry and Other Initiatives

Companies have an interest in supporting the development of local skills in their countries of operation. This is often associated with the idea of ‘shared value’, which “views the competitiveness of a company and the vitality of the communities where it operates as mutually dependent”⁹.

International organizations also encourage initiatives to support new solutions to fill skills gaps, such as the African Skills Initiative, a private-public partnership comprising the United Nations Economic Commission for Africa (UNECA), AngloGold Ashanti and AusAID. In 2015 the African Development Bank set out a strategy for the African Natural Resources Centre to deliver capacity building programmes to regional member countries of the Bank; subsequently the Centre has developed a generic roadmap to assist policy-makers in formulating effective local content policies.

Such initiatives may prove more effective than ones that are based on a combination of mandatory primary and secondary law. They may be more sensitive to the need for the level of local content to be increased gradually as the availability of qualified local professionals and firms grows.

9.2.2.5 Making it Work

Use of mandatory legal requirements on local content (in terms of providing services and holding upstream equity shares) can be problematic. Various studies agree that two major

⁹ IPIECA (2016), Local Content (second edition), p.8.

challenges face many local content initiatives: poor design and weak enforcement¹⁰. Particular failures identified in recent research¹¹ include:

- A lack of sector-specific requirements, preferring blanket provisions that apply across all sectors;
- A failure to set the correct value pools in terms of fit with local capabilities;
- No time frames set or sunset clauses defined. An immediate fulfilment of local content shares is often preferred to a gradual build-up of local content shares. Local firms may have little incentive to reach global competitiveness due to the absence of any sunset clause on preferential treatment given to them; and
- No supporting government institutions for local content policies and regulations.

‘Forced marriages’ are sometimes encouraged by governments, whereby foreign companies are required to support a particular local company, with little opportunity or ability to vet the local partner. On a number of occasions, investigations have been launched into transactions under the Foreign Corrupt Practices Act (FCPA), in for example Angola. The benefits of local content requirements can in practice be a small number of companies, often with political connections. This can lead to the phenomenon of ‘elite capture’ of domestic economic entrepreneurs¹² and is not going to lead to large-scale job creation.

Often capacity will be lacking, making enforcement of such regulations difficult. Nigeria, for example, lacks the personnel to replace expatriate workers, and its infrastructure capacity is limited in, for example, steel production.

Beneficiation An area of growing interest among governments lies in the promotion of beneficiation policies which promise the addition of value in exports of EI commodities. In mining, this might involve the prohibition of exports of unprocessed commodities, as has happened in Indonesia with respect to copper and nickel. The Indonesian experience is salutary although not conclusive. The aim behind a blanket prohibition on exports (itself part of a wider reform of the country’s Mining Law) was to increase participation by domestic companies in the mining sector. The Coordinating Economic Minister stated that its intention was to “add value to mineral exports by having them processed in Indonesia and create more jobs”¹³. Upstream producers would be compelled to refine minerals before export and so grow domestic processing businesses. A transition period of three years was set from January 2014. By early 2016 there had been a negligible increase in Indonesia’s mining processing capacity. Various factors can be attributed to this failure to date. For example, in the background commodity prices have been low, foreign investment has been

¹⁰ Mining contracts, p.159-160: in the second category the authors refer to “the challenge of monitoring compliance” and “the consequences of a breach”.

¹¹ For example, McKinsey Global Institute (2013), pp.14-15.

¹² See the discussion by C Nwapi (2016), A Survey of the Literature on Local Content Policies in the Oil and Gas Industry in East Africa, pp.21-23, and citations therein.

¹³ Herbert Smith Freehills, Indonesia’s ban on exporting unprocessed minerals begins to bite, 18 March 2016.

directed at other emerging markets and the capacity of the Philippines for nickel exports to China has increased. This context means that most of the current smelter projects are economically unviable and also adversely affected by public infrastructure problems. The prohibition was also followed by supplementary government regulations, which add to the complexity of the measure and create greater uncertainty for investors. Finally, there is a planning approval system in place for foreign companies seeking to establish or increase in-country processing that duplicates provincial and national regulatory requirements.

The thinking behind the Indonesian initiative is not unique. Several African countries have taken a similar route: South Africa has imposed many export controls on unprocessed minerals; Botswana in diamonds; Zambia in copper; Zimbabwe in unrefined gold and raw chrome; Ghana in oil, and Mozambique in natural gas and coal. There are differences however within the policies. South Africa's policy aims at transforming final products of mineral processing into manufactured products, while Zimbabwe's, for example, is targeted mainly at a limited downstream change, particularly to include smelting and refining¹⁴. A contrasting approach is that of Chile where copper processing in-country has not been a focus and instead exports of copper to China and India as concentrate has been the overriding objective¹⁵. Similarly, Norway's policy on diversification selected sectors for which capacities already existed, such as construction and the provision of specialised technical services, and avoided most downstream industries (except oil refineries and gas processing plants). A challenge for the beneficiation approach arises from the very different kinds of industry involved in primary extraction and downstream processing and manufacturing. Having a comparative advantage in one does not imply a similar advantage in the other.

Unintended consequences of local content measures can include the risk of enhanced corruption as local content decisions align with local vested interests. Tensions arise from the perception that certain interests are being favoured over others, or dependence on demand from the extractives sector increases, only to prove vulnerable to the usual economic cycles discussed in Chapters 2 and 7 of the *Source Book*.

9.2.2.6 Summary

None of the negative features of local content experience to date are fatal to the general idea behind it or the aspiration that it represents. Indeed, many shortcomings are linked to the stage of development of the extractive industry in the country concerned: capacities can be built, institutions can be improved and governance quality can be enhanced. Comparing

¹⁴ Euromix Research, *Zimbabwe's Beneficiation Policy* (2015), South Africa, p.8.

¹⁵ H Halland, M Lokanc, and A Nair with SP Kanna (2015), *The Extractive Industries Sector*, World Bank, pp. 93-98, especially at 98.

and contrasting approaches to local content policy and implementation has never been as easy as it is today. We might usefully recall one set of principles as a guide when designing effective local content¹⁶:

- Identify areas where local content is likely to be effective; job creation differs significantly between oil and gas and mining, and within each from one stage of investment to the next;
- Understand competitive advantage; a lack of industrialisation means that the opportunities for local content are limited, at least initially;
- Assess the opportunity cost of regulatory intervention; if regulations raise costs and cause delays, the impact will overall be negative;
- Enable local suppliers. The aim of local content regulation should be supportive by encouraging skills development, providing financing and coordinating local suppliers; and
- Monitor progress; ensuring that a regulatory body can coordinate efforts with some enforcement powers.

9.2.3 Resources-for-Infrastructure

The lack of infrastructure required for extractives development in new resource-rich countries has already attracted the attention of development advisors as a significant barrier to wider development from extractives projects. Mining projects require significant investment in infrastructure such as railways, roads and ports. Oil and gas projects are less infrastructure-intensive but still require ports and substantial networks of pipelines. Given the need for such investments among the new states, there is clear potential for leveraging them to the host country's advantage, not least by contributing to the obvious need for infrastructure in the wider economy, but also by means of potential linkages to financial services, logistics and technological development. Excess capacity could be built into new grids to benefit industry and other users; similar provision could be made with respect to roads. Different operators could share the use of power capacity in mining projects and pipelines in oil regions. Examples can be found most readily in 'frontier' areas, new to large-scale extractives projects, such as Mongolia, Guinea, Mozambique, and Sierra Leone (see **Box 9.1** for a summary of the Liberian approach).

Essentially, governments may be able to 'piggyback' on large infrastructure investments by extractive companies to fill capacity gaps and save on their overall capital spending.

¹⁶ McKinsey, 2013.

Similarly, extractive companies “can share their infrastructure capital spending with others, thereby managing some of their capital exposure risk”¹⁷.

This idea of sharing may seem obvious and hardly surprising. However, in the past, international investors have tended to be reluctant to invest in infrastructure in many countries, other than in telecoms and energy, and some social development programs, due to long paybacks and uncertain cash flow, as well as country risk premiums. Partly because mining and hydrocarbons projects are often located in remote areas, on-land or offshore, they have long tended to adopt the ‘enclave’ approach to development, gathering around them the power, water, information technologies and transportation services they require to ensure reliable infrastructure for their operations. Contract provisions reflected this, requiring governments to ensure rights of access and a right to construct the necessary infrastructure. In recent years, the growing role of non-OECD investment funds from China, India and Arab states and their preference of these investors for linking finance for infrastructure to resource access has underscored the limited developmental benefits accruing from this approach. It has fallen from favour as a result.

There is now enthusiasm in using project finance to achieve these developmental goals. For example, the African Union Commission and United Nations Economic Commission for Africa has argued that using minerals as the core for infrastructure development planning will simultaneously co-opt private participation and unlock major sources of public finance¹⁸. Governments should, in its view, engage mining companies in particular in partnerships for infrastructure finance. They should also undertake studies for mining spatial development initiatives (SDIs). Other initiatives in this area have come from the Resource-based African Industrialisation and Development Strategy, the International Finance Corporation (IFC)¹⁹, and the OECD Development Centre²⁰. There have also been guiding principles issued from the World Bank’s sustainable energy department addressing mine-related infrastructure.

Against this, the IFC has noted the “dearth of examples of successful, relevant, Greenfield transport mining PPPs”²¹ which “suggests that there are limited options with respect to commercial structures that will result in successful project financing and execution”. It may be rooted in the “limited interest among mining companies to share infrastructure”. Among the projects discussed, only a few will progress and even then probably only at a slow pace, given the decline in investor interest following the commodities downturn and resulting capital constraints.

¹⁷ McKinsey Global Institute (2013), p. 53.

¹⁸ African Mining Vision (2011), ‘Exploiting Natural Resources for Financing Infrastructure Development: Policy Options for Africa’. African Union Commission. Paper presented at the 2nd Ordinary Session of AU Conference of Ministers Responsible for Mineral Resources Development, Addis Ababa, December 2011.

¹⁹ IFC (2013), *Fostering the Development of Greenfield Mining – Related Transport Infrastructure through Project Financing*.

²⁰ *Perspectives on Global Development* (2010).

²¹ IFC (2013), p.9.

Practice As much as the idea may be clear, the practice is not. Arguments abound over the most appropriate models for the ownership, operation and financing of infrastructure. Two kinds of infrastructure arrangement can be distinguished here:

- Rfi (Resources for Infrastructure): this involves the grant of rights for infrastructure provision for greenfield operations, *but also* for infrastructure that is *not necessarily related* to a mining project (harbours, public buildings, and so on); and
- Infrastructure-related: the kind of infrastructure that is directly associated with a mine or a petroleum project, such as transportation links.

When such deals occur, what typically are their main features? In the former case, this is the kind of deal associated with and championed by Chinese companies in Africa (the Angola model mentioned in **Chapter 2**). An example is the joint venture established between the Governments of China and the DRC in Africa, with the foreign investors agreeing to finance up to US\$3 billion in infrastructure projects. IMF criticisms have been made of it and the amounts have been reduced.

Other vehicles have been discussed but none appear to be ideal. On one view, the common use of foundations, trusts and funds in the mining sector offers a way forward²². Usually, these are associated with community investment, compensation to mitigate impacts of projects, and government payments. They have several advantages such as flexibility, transparency of governance rules and assurances with respect to flows of money. They could therefore be used to finance an infrastructure projects as a funding structure and a management tool for a variety of projects. Even if this model were to be adopted, the requirements for the *infrastructure* project would need to be set out in the tendering documentation, an independent party would have to assure or oversee the performance of the works. Provision would have to be made for early termination of the mining rights.

For the host country, the identification of resource linkages is a task that has to be timed carefully. If it is not done at the outset, it will be very hard to amend the terms of the contract so that they are required if a project subsequently proves to be commercial. Yet both parties will face unknowns at such time: will the project ever reach commercial discovery and development and if so, what is the scale of the deposit and the market price for it? The *African Mining Vision* (AFV) has underlined the importance of these linkages, noting that if rights are awarded at the outset the local economy may not yet be in a position to take advantage of the opportunities that the linkages offer. In particular, the AFV notes the importance of third party access to the resource infrastructure (transport, energy and water) at non-discriminatory tariffs. Further, at an early stage of the project, even when

²² This view was proposed by a leading mining lawyer, M Stephane Brabant, in a presentation to the mining indaba at Cape Town, 4 February 2013.

in development, it will be difficult for the parties to determine what infrastructure is necessary. Typical requirements will include: power supply; extension of road and/or rail network; water supply and port facilities. Without any open tendering it will be difficult to attach economic value to the proposed infrastructure.

So far, the ways in which this infrastructure deficit has been addressed have enjoyed only a very qualified success in sustainable development terms. To begin with, the infrastructure has tended to be project focussed only and restricted to privately owned assets. Financing has usually been obtained through government-to-government partnerships. The resource-for-infrastructure swaps are an illustration of this. This model can produce results in the near term but questions have been raised about quality, environmental aspects, transparency and debt sustainability.

Obstacles to a strategy of promoting such deals are many:

- On the legal side, two may be noted. Sometimes the resource rights are awarded in ways that do not accord with the kind of tendering requirements that are normally applicable in public works contracts or concessions. In some countries there are legislative provisions which prohibit the implicit or explicit sale of planning or exploration permits in return for public benefits. However, the business related obstacles are perhaps more fundamental. After all, the risks attaching to mining and infrastructure projects are different and require different skills. The key players are not the same in each field. Lenders will not accept a mixing of risks that have a different profile;
- Infrastructure projects will normally require costly design and feasibility studies that mining operators will not wish to undertake or support as long as the profitability of the mining project is uncertain. The funding requirements of an infrastructure project will not usually fit well with the long pay-back period of a mining project;
- The companies involved will include both mining companies and construction companies, creating additional complexity for the contractual arrangements;
- It should also be noted that these arrangements do not imply local content. There is usually no guarantee or requirement that local labour or local companies would be employed on such infrastructure transactions. Indeed, the guiding assumption is more likely to be that foreign expertise, equipment, services and even labour will be brought in to carry out the infrastructure project, with resulting losses in economic benefits; and
- Finally, there will be a need for the parties to design and implement complex transactions and for government policies and approvals to be coordinated. Many projects rely on 'regulation by contract' to compensate for the absence of a clear legal framework, but this will only work if the overall legal framework in the country is supportive (contracts will be legally enforceable, for example). Many of the new

resource-rich countries are also ones in which the Rule of Law is weak, and negotiating capacity for complex contracts is limited, so both of these features are likely to act as a deterrent for lenders (see **Box 9.2** for a summary of the parties' objectives in negotiations for an infrastructure project). As the IFC report notes, "the magnitude of potential losses from discriminatory, unjust legal and regulatory action is so large that the presence of risk can overwhelm all other considerations and make the project non-bankable"²³.

Box 9.1: Liberia – Open Access Regime in Mineral Development Agreements

"The Government shall, in consultation with the Concessionaire, and on reasonable notice to the Concessionaire, authorize third parties' use of excess capacity of the Railroad (including the portion of the Railroad located within the Concession Area) and the Port Facility, *provided that the Concessionaire confirms that excess capacity exists and third party use of such excess capacity does not unreasonably interfere with the efficient and economic conduct of the Operations.*

The *technical and commercial* terms for such third party use of the excess capacity of the Railroad and the Port Facility *shall be mutually agreed to, in good faith*, among the Government, the Concessionaire and such third parties in accordance with applicable use and International Standards, it being understood that *third parties shall be treated on a non-discriminatory basis. A formula to proportionately share the revenue fees to be derived from such third party use of the Railroad shall be agreed upon in good faith* between the Government and Concessionaire.

Such third party access and use shall be at no cost to the Concessionaire and all related costs shall be borne by the third party.

In the event that the Government believes that the Concessionaire is withholding third party access to the Railroad or the Port Facility in contravention of this Agreement, *the Government may request a review* of the Concessionaire's decision not to grant access. The review shall be heard by the Committee described below.

There shall be constituted a Committee with five (5) members. Two (2) members of the Committee shall be appointed by the Government and two (2) members shall be appointed by the Concessionaire. *The final member shall be appointed jointly by the Government and the Concessionaire.* The Committee shall hear and review all complaints regarding third party access to, and third party modernization or expansion of, the Railroad and shall forward its recommendations together with an explanation of its rationale for such recommendations, to the Parties to this Agreement".

²³ IFC (2013), p.20.

Box 9.2: Objectives of the Parties to an Infrastructure Project

Project Sponsor Objectives

Critical

- Avoiding disputes with government;
- Operational control over rail network, including access;
- Priority rights over acquired capacity;
- Avoid any material adverse impact on operating costs:
 - Disruption of operations;
 - Additional inventories; and
 - Repair and maintenance costs.
- Avoid benefiting direct competitors;
- Flexibility in case of breakdown, force majeure, etc.; and
- Future expansion rights

Secondary

- Cash flow from third party access:
 - Recovery of portion of capital cost; and
 - Generate cash from third part.
- Ability to JV or otherwise participate with local mining projects.

State Objectives

Critical

- Promote open access in a manner that does not prevent the development of key projects;
- Preserve possibility that marginal deposits can be developed;
- Diversity exploitation of mineral resources among various sponsors;
- Promote future uses by new industries (e.g. agriculture);
- Ensure access rules are clear and transparent; and
- Maximize fiscal position

Secondary

- Minimize required regulatory oversight.

Third Parties' Objectives

- 'Bankable' access rights:
 - Secure capacity;
 - Long term;
 - Predictable tariff; and
 - Avoiding 'project-on-project' risks.

9.2.3.1 Resource Corridors and Infrastructure Access

The idea behind the ‘resource corridors’ concept is that the linkage between rigs and mines to port, rail and road investments can catalyse supporting and ancillary economic activity, creating development corridors, alongside extractives-related infrastructure²⁴. An example is the Nacala Corridor linking Zambia, Malawi and Mozambique by rail and connecting coal mining areas to the Nacala port. Linked to this idea is a requirement that third party access to such infrastructure be facilitated. Such shared infrastructure is thought to benefit sustainable economic growth²⁵. In many parts of the world there are regions that have been identified as having resource corridors that could act as platforms to catalyse and deliver economic growth and wider development, such as economic diversification, regional integration, increased trade, and improved livelihoods.

On the negative side, however, such corridors have the potential to open up areas to illegal trade in forest and wildlife products, to create barriers to migration routes and risk introducing invasive, alien species that can act as carriers of diseases²⁶. They also take years to develop, due to the phasing of extractives projects as well as with all other forms of economic activity. Price volatility will impact on the extractive activities in the meantime. Initial experience suggests the expected benefits are still far from being achieved²⁷.

One study has noted: “Concerns exist that to-date corridors have not been properly planned by governments, that infrastructure investments have taken place with little or no strategic consideration to environmental degradation and climate change resilience, and that this will ultimately reduce the positive economic and social development impact of the corridors. For this to change, the corridors need to be planned not only from an infrastructure and investment feasibility perspective, but taking into consideration socio-economic and environmental factors, as well as the protection of critically important areas of high conservation value in situ.”²⁸

The idea behind this critique is that such corridors require an integrated approach. For example, investment and policy decisions should build in adaptation to predicted impacts of climate change, and should be screened for compatibility with a sustainability vision. From the very outset, a corridor project needs comprehensive baseline information that identifies the sensitive areas that need to be protected²⁹. They require a coordinated development

²⁴ For a discussion of the resource corridor concept and analysis of several case-studies, see *Resources Corridors: Experiences, Economics and Engagement: A Typology of Sub-Saharan African Corridors* (2012), by H Mtegha, P Leeuw, S Naicker and M Molego: www.eisourcebook.org/cms/files/EISB%20Resources%20Corridors.pdf (last visited 11 May 2016)

²⁵ For a discussion of this see the paper by CCSI: P Toledano, S Thomashausen, N Maenning and A Shah (2014), *A Framework to Approach Shared Use of Mining-Related Infrastructure*: <http://www.eisourcebook.org/documents.php>

²⁶ Jon Hobbs and FK Kumah, *the Extractives Slowdown in Africa: A Window of Opportunity?* African Policy Review 2015.

²⁷ Concern about this is the motivation behind the Integrated Resource Corridors Initiative (2015) (IRCI), funded by the UK Department of International Development, and carried out by WWF and Adam Smith International.

²⁸ IRCI (2015), *Are Resource Corridors Fulfilling their Development Potential whilst protecting the Integrity of Ecosystems?*

²⁹ J Hobbs and FK Kumah (2015).

between multiple branches of government, in conjunction with the private sector, communities and CSOs. With this level of integration, a resource corridor project should be driven by best practices and should be able to protect the integrity of the ecosystem.

Shared Use A strong determinant of resource corridor definition is the potential for shared use of infrastructure. There are two ideas at work in the notion of shared use. The first refers to a multi-user approach in which several companies in a region develop or use common infrastructure. This can lead to economies of scale among the various companies, and increase tax revenues to the government. The second refers to a multi-purpose activity, where non-mining users share the infrastructure with the mining company. This also offers efficiencies in terms of access to water, energy, transportation and telecommunications services, all of value to economic development in the region.

The viability of a shared use concept is dependent on ownership structures. Companies that have built their own infrastructure or bought it from a predecessor are unlikely to be willing to share it. For infrastructure that is strategic to the extractives operation, such as ports or railways, a shared use approach may constrain capacity or entail high costs of coordination. Where such infrastructure is non-strategic or less so, flexibility can be expected.

An alternative model of ownership would be where the infrastructure is owned by a third party or a state-owned company. The government will be better able to limit exclusive access to a particular company. The trade-off is that the project may be developed more slowly as a result. A government demand for such access is also likely to lead to a less favourable deal on fiscal terms.

It is important to note the differences in opportunity between various minerals. For example, a bulk commodity such as coal or iron ore will require the development of railways, while gold extraction will require only roads but correspondingly more access to water resources. Similar differences will arise with respect to energy demands. This will impact upon demand patterns for third party access to infrastructure.