

CHAPTER 1 – www.eisourcebook.org

1.1 The Demand for Knowledge

Not so very long ago, governments in many parts of the world were entirely dependent upon international firms for the development of their oil, gas and mineral resources. The assumption of control by sovereign states is historically quite recent, as is their experience of designing and implementing their own policies over these resources.

For the first generation of states in the post-colonial world, knowledge of the optimum practices for their oil, gas and mineral industries was often not readily available to them. As a result, these states were frequently dependent upon and even had their policies shaped by the advice of international institutions and other outside bodies. Their legal and fiscal frameworks often reflected a colonial legacy or a reaction to it by pioneering new relationships with foreign investors designed to increase the state share of the expected benefits. Some of these innovations worked, such as the introduction of production sharing in the oil industry, and others were less successful, such as the use of state-owned companies in mining.

In the 21st century, on the crest of a wave of high prices and robust investment, a new generation of states joined or seemed about to join the club of petroleum and mineral producers¹. These new arrivals have different and diverse origins: some states have emerged from armed conflicts and are hungry for reconstruction and growth; others have shaken off political ideologies that constrained policy choices and stifled initiative. Compared to their predecessors, the *prospective resource-rich states*, as the IMF calls them, are more open, pluralistic and confident societies. At least 35 per cent of them are low-income or lower-middle income countries². Many of them are in Africa. No-one needs to tell them of the potential that oil, gas and mining operations offer to kick-start or accelerate development. They face a wider range of potential investors than ever before; as well as new markets in Asia hungry for their exports; new areas available for exploration due to technological innovation, such as deep water drilling; the potential for developing new sources such as shale gas and other unconventional petroleum resources; and the impact of new products and materials that require expanding rare minerals production. The number of prospective resource-rich

¹ The IMF listed among 'prospective natural resource-exporting developing countries the following: Afghanistan, Central African Republic, Ghana, Guatemala, Kyrgyz Republic, Lao PDR, Madagascar, Mozambique, Sao Tome e Principe, Sierra Leone, Tanzania and Togo (IMF, 2012, Macroeconomic Policy Frameworks for Resource Rich Developing Countries, Appendix 1, 47).

² Oxford Policy Management (2013), drawing on UNCTAD statistical data: <http://unctadstat.unctad.org> (last accessed 6th April 2016)

economies will grow since large volumes of resources remain to be discovered, not least in sub-Saharan Africa where relatively little is known about the value of subsoil assets³.

Yet, for many of the new generation of resource-rich states clouds have darkened the prospect of hosting large-scale foreign investment. Price volatility raises urgent questions about the right way to stabilize revenue streams and other benefits in the face of sharp falls in commodity prices. Moreover, the prevalence of decades-old mining codes, inadequate or absent hydrocarbons laws and a patchwork approach to the conclusion of agreements with investors has pushed reform to the top of their agendas. The complex implications of large new developments, notably in oil, gas and iron ore, are also creating unfamiliar challenges for several low-income countries, with implications for their overall economic performance. For those states that have recently joined or which are about to join the club of resource-rich economies, there is an urgent need for guidance about what constitutes 'good practice' in resource management and how to apply it so as to avoid the much publicised mistakes of many of their neighbours, and unlock the potential for economic and social benefits which they are seeking.

The aspirations and the needs of these states have stimulated the launch of a knowledge project called the *Extractive Industries Source Book*.

For the new generation of petroleum and mining states, from Colombia to Ghana, from Timor-Leste to Mozambique, the knowledge context itself is a major challenge. Today there has probably never been so much knowledge available about the complex of legal, economic, contractual and institutional issues that governments must address. It offers analysis, remedies and recommendations. Most of it is accessible, at least potentially, in hard copy or electronically, from almost anywhere in the world. However, it often carries a health warning. The surfeit of knowledge sits alongside a body of literature replete with warnings about the dangers of reliance upon these industries for development. Many prospective resource-rich countries have neighbours which have encountered difficulties in their resource development; even without familiarity with the extensive literature they become aware that significant risks can face the unwary. This is also a context in which the familiar shortage of staff with specialist skills and expertise acts as a constraint on the development of policy, the operation of proper institutions and of course on the absorptive capacity and interpretation of this wealth of available knowledge. In countries new to oil, gas and mining development, there will be more or less uncertainty about where to find data relevant to their needs, about the reliability of

³ IMF (2012): it cites World Bank Wealth of Nations Data 2006 and 2010.

many available sources, a shortage of qualified staff to assemble, analyse and utilize such knowledge and concerns about the cost of accessing it.

By contrast, companies engaged in the international oil, gas and mining business will usually have an established body of knowledge and data as well as an awareness of how to enhance them and the costs involved in doing so. Many of them will have their own training centres and even ‘corporate universities’. They will be accustomed to working with a plethora of standards, codes and guidelines, which provide them with benchmarks of good international industry practice, established by their own companies or through associations or both. The result is an all too familiar asymmetry of specialist knowledge between the two *traditional* sources of demand: international investors on the one hand and government departments and agencies in resource-abundant societies on the other. In the contemporary international economy, asymmetry is exacerbated by the global dimension of foreign investment. Corporations operate across jurisdictions and through highly complex structures, through local subsidiaries, affiliates and a web of offshore entities. As the authors of the Africa Progress Report have put it, the “combination of complexity, different disclosure requirements and limited regulatory capacity is at the heart of many of the problems” and “facilitates aggressive tax planning, tax evasion and corruption”. As a result, a robust national response has to be supplemented by cooperation between governments, regional organizations and the wider international community.

For the earlier generation of resource-rich states, this asymmetry of knowledge is all too familiar. Nor is it one that they have entirely escaped from. Even with established EI sectors, countries like Algeria, Iran, Mexico and Nigeria have felt it necessary to explore new institutional structures for their EI sectors. Within the two categories of country identified by the IMF as being less at risk from the effects of the ‘resource curse’ – upper middle-income resource-rich economies and high-income countries that are rich in natural resources (see Figure 1.1) – there is much examination of legal and fiscal frameworks, revenue management and the implementation of measures to ensure sustainable development (in more than a narrowly economic sense) of these exhaustible resources⁴. For this group of 29 resource-rich developing countries, the need for policies to be informed by independent, critically assessed knowledge is more obviously immediate.

Demand from whom? The groups of states that can be described as ‘resource-rich’ and as sources of demand for knowledge of the extractive industries are illustrated in Figure 1.1. The IMF distinguishes four kinds of resource rich state: apart from prospective resource-rich states, there are lower to middle income resource-rich states; middle income resource rich states and

⁴ The robust debate about future resource management in Norway, widely recognized as one of the best managed resource-rich economies, is illustrative of the continued dynamic which these issues foster.

upper income states. The kind of knowledge that each group will require can be expected to differ. For the poorest of them, for example, it may not be wise to follow the Norwegian model of saving funds offshore for future generations, when immediate development imperatives focused on poverty reduction exist today.

In practice, however, the present demand for specialist knowledge is driven by more than the needs of governments. *The new sources of demand for knowledge include national and regional parliaments, local NGOs, media, universities, technical experts, as well as the various donors of technical and financial assistance, such as national, regional and global development institutions, and formal and informal civil society networks.* Indeed, two leading development economists have observed that “the power and informational advantages of the major international oil companies are far less than before, except perhaps in very technically demanding fields”⁵. As a result, “the most difficult principal-agent problems are those between the governments of oil-producing states and their citizens”. These remarks apply equally to the mining sector. Weaknesses in the governance mechanisms can constrain governments to be accountable to their citizens. Indeed, governments may in some cases even collude with international investors – or with national EI companies where these exist – to act in ways that are contrary to their citizens’ interests.

This concern with accountability makes the kind of knowledge required by these groups different and more complex from that which investors typically seek. Frequently, it is influenced by concerns about the negative experiences of other countries, past and present, in developing their oil, gas and mining resources (and for donors, it may be influenced by the disappointing results of earlier interventions in the EI sectors of those countries). They will be aware that poor outcomes have often been the result of bad or reprehensible decision-making by governments, and will want to ask the kind of questions that mitigate the risk of such decision-making happening in their own country. They will have a keen awareness that these are finite resources presenting a one-off opportunity for social and economic transformation. However, this concern with accountability and transparency is often accompanied by very high expectations of the benefits of extractive resource development that are common in prospective resource-rich countries. A high priority will be placed by local communities and most civil society groups in EI producing regions on employment and, close behind, on the development of a domestic private sector. The credibility of governments will turn on their ability to create jobs. The influence of such groups is evident in the current policies on ‘inclusiveness’, promoting a high proportion of local content in the sourcing of investor purchases of goods and services, and the

⁵ Alan Gelb and Ginger Turner, ‘Confronting the Resource Curse: Lessons of Experience for African Oil Producers’, presentation to conference in Tswalu, 26-28 October 2008, p.6

decline in the culture of secrecy that has often shrouded publicly held EI data from citizens. All too often, however, the learning curve of these groups is stunted by either a lack of relevant data (contracts or numbers) or a surfeit of data that can only be fully understood by those already in possession of specialist skills.

Five Key Knowledge Areas Apart from the ‘hard’ technical knowledge provided by engineers and geologists, the kind of knowledge of oil, gas and mining that is typically sought by all of the above groups in their dealings with investors can be broadly classified under five main headings:

- Policy and legal framework;
- Organization and regulation;
- Fiscal design;
- Revenue management; and
- Sustainability, in the sense of environmental and social planning and management and the linkages of these activities to broader impacts across the economy.

Each of these categories refers to combinations of levers that are crucial to making a success of extractive industry development. Taken together, they refer to much more than knowledge of an operational kind, such as a settled paradigm that aspiring technocrats need to master; rather, each of these categories is informed by changing theoretical frameworks, principles and lessons from incremental experience. Sometimes deceptively called ‘good practice’, this body of knowledge is being continually adapted, and is increasingly influenced by the development challenges of the new and prospective resource-rich countries.

The most basic strategic challenge that a government will face is whether to exploit the resource or to leave it in the ground. In some instances, the benefits of mineral resource extraction will outweigh the environmental and social costs. However, this is a decision that needs to be arrived at by means of a transparent and inclusive process, which will improve the quality of decision-making. However, we cannot simply take for granted the decision to exploit the resource: there may be occasions when the environmental and social context is too sensitive or when not enough scientific evidence exists on the potential negative impacts. The choice is made more complex by the number of unknowns involved, not least about the geology.

The *Extractive Industries Source Book* seeks to intervene in a positive way in this knowledge context, and aims to promote a rebalancing of knowledge in the above five categories in favour of those with the greatest need and the least means to access it.

This unprecedented complexity of demand for knowledge in key policy areas has one important consequence: the potential for volatility in policy design and implementation for long-term EI projects has never been greater. The key decisions in developing extractive resources remain largely ones that are taken by governments and investors. Usually, the governments are highly centralized institutions, albeit ones that have varying interests and expectations about natural resource-led development. Each of these institutions will tend to rely more or less upon specialist agencies for knowledge inputs, for implementation of policies and financial management. These bodies remain vulnerable to the long-standing asymmetry of specialist knowledge between themselves and international investors, evident from the moment that a contract negotiation commences. This familiar challenge is exacerbated by the fact that *more than ever before* the constituencies that governments have to respond to are highly diverse and inchoate; companies too are increasingly accountable to a broad stakeholder base rather than simply a body of shareholders and a company board. Both states and investors have a keen interest in the design of a fair and efficient fiscal regime and in the techniques for optimal management of resource revenues. However, the challenges facing any government in policy design are complicated by the fact that its 'shareholders' are a potentially large and diverse group, with shifting expectations of what can and should be achieved from the development of extractive resources. As a result, its goals are likely to be more subject to change and will strive for a mix of short and long term benefits. Whatever the *form* of government, its people are likely to enjoy greater access to information about the opportunities and risks of oil, gas and mining development than any generation in history. Without a knowledge map for resource management, the potential benefits of this new supply are likely to fail to meet demand.