

ECONOMIC AND PRIVATE SECTOR
PROFESSIONAL EVIDENCE AND APPLIED KNOWLEDGE SERVICES

Topic Guide

Extractive industries, development and the role of donors

Authors

Evelyn Dietsche, Samantha Dodd, Dan Haglund, Mark Henstridge,
Maja Jakobsen, Esméralda Sindou and Caroline Slaven

Oxford Policy Management

September 2013

EPS-PEAKS is a consortium of organisations that provides Economics and Private Sector Professional Evidence and Applied Knowledge Services to the DfID. The core services include:

1. Helpdesk
2. Document library
3. Information on training and e-learning opportunities
4. Topic guides
5. Structured professional development sessions
6. E-Bulletin

To find out more or access EPS-PEAKS services or feedback on this or other output, visit the EPS-PEAKS community on <http://partnerplatform.org/eps-peaks> or contact Yurendra Basnett, Knowledge Manager, EPS-PEAKS core services at y.basnett@odi.org.uk.



Oxford Policy Management

Disclaimer Statement:

The views presented in this paper are those of the authors and do not necessarily represent the views of Consortium partner organisations, DFID or the UK Government. The authors take full responsibility for any errors or omissions contained in this report.

Contents

Figures and Boxes	2
Abbreviations	3
1 Introduction	4
2 Extractive Industries: prices and dependence	5
2.1 Recent trends	5
2.2 Growing significance of EI	6
2.3 What will EI mean for Aid Graduation?	8
3 Organising frameworks	9
3.1 Asset transformation: from sub-soil assets to human development	9
3.2 The chain of public policy decisions	11
3.3 The intersection of public policy and industry interests	11
4 Extractive Industries	13
4.1 Industry organisation	13
4.1.1 Key players	13
4.2 Natural resource projects – life cycle and impact	15
4.2.1 The project life cycle	15
4.2.2 Environmental impacts across the life cycle	17
5 The public policy perspective	20
5.1 Policy context	21
5.2 Licensing and contracts between the State and the Private Sector	21
5.3 Fiscal regimes	22
5.4 Regulating the industry	25
5.5 Revenue collection and management	26
6 Entry points for donors	28
6.1 Existing donor initiatives	28
6.1.1 Technical assistance	29
6.1.2 Transparency and accountability initiatives	30
6.1.3 Private sector partnerships	31
6.2 Options for collaborating with the private sector	32
6.2.1 Local content in the supply chain	33
6.2.2 Education and training	34
6.2.3 Public investment by local government	36
6.3 Lessons learned	37
6.3.1 Technical assistance	37
6.3.2 Transparency and accountability initiatives	39
6.3.3 Private sector partnerships	39
Annex A: Common approaches to the EI value chain	41
Annex B: Extractive Industry initiatives	42

Figures

Figure 1: Selected mineral commodity price trends (2000=100)	6
Figure 2: Top 40 countries with highest export contributions from minerals	7
Figure 3: Asset transformation – from sub-soil assets to development	10
Figure 4: Public policy along the value chain	11
Figure 5: The intersection of shared purpose between EI and public policy	12
Figure 6: Extractives project lifecycles	16
Figure 7: The value chain and governance	20
Figure 8: Outline of a tax-royalty contract	23
Figure 9: An example of a combined royalty and profit-sharing contract	24
Figure 10: Selected donor activities in the EI sectors	28
Figure 11: Business development	33
Figure 12: Skills development	35
Figure 13: Government capacity building	36
Figure 14: Selected examples of EI value chains	41

Boxes

Box 1: Uganda – managing a modest boom	8
Box 2: Natural assets, public finances and development effectiveness	10
Box 3: Investment decisions: what does industry look at?	16
Box 4: Main environmental impacts in large-scale mining	18
Box 5: Environmental incidents on the Zambian Copperbelt	26
Box 6: A sequence of fiscal management decisions	27
Box 7: Evolution of thinking in donor support around EI	29
Box 8: The Ahafo Linkages Programme in Ghana	34
Box 9: The African Mineral Skills Initiative	35
Box 10: Public finance and expenditure management in Brazil	37

Abbreviations

ASM	Artisanal and Small-scale Mining
AusAID	Australian Government Overseas Aid Program
BP	BP PLC (formerly 'British Petroleum')
CIDA	Canadian International Development Agency
DFID	Department for International Development
DRC	Democratic Republic of Congo
E&P	Exploration and Production
EI	Extractive Industries
EITI	Extractive Industries Transparency Initiative
ESIA	Environmental and Social Impact Assessment
FDI	Foreign Direct Investment
FEED	Front-end Engineering and Design
FOSTER	Facility for Oil Sector Transparency
GDP	Gross Domestic Product
ICMM	International Council on Mining and Metals
IFC	International Finance Corporation
INOC	Iraq National Oil Company
IOC	International Oil Companies
KOC	Kuwait Oil Company
NIOC	National Iranian Oil Company
NOC	National Oil Companies
Norad	Norwegian Agency for Development Cooperation
NRC	Natural Resource Charter
OPM	Oxford Policy Management Ltd
OPEC	Organisation of Petroleum Exporting Countries
PSA	Production Sharing Agreement
PSC	Production Sharing Contract
RD/Shell	Royal Dutch/Shell
RSA	Risk Sharing Agreements
SME	Small and Medium-sized Enterprises
TVET	Technical and Vocational Education and Training
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development

1 Introduction

Extractive Industries (EI) explore, find, extract, process and market sub-soil assets – oil, gas and mined minerals. EI represent a large and growing activity in many less-developed countries. But natural resource wealth does not always lead to sustainable and inclusive growth.

This guide sets out the recent rise in importance of EI to less-developed countries. It provides a framework for thinking about (i) the socio-economic impacts of these industries and (ii) the relationship between EI, host country public policies and donor activities.

Extractive businesses are often assumed to be only interested in maximising short-term shareholder value – implying that less-developed countries are vulnerable to exploitation by relatively powerful corporations. Host governments, on the other hand, are often assumed to be only maximising immediate revenue. We argue that there are areas of common interest where business and development goals intersect.

These intersects present opportunities for DFID to engage with the private sector and host governments through a range of activities. These include employment creation, skills and enterprise development, revenue management and expenditure accountability, infrastructure development and impacts on women and children, especially girls.¹

The remainder of this Topic Guide is structured as follows:

- Section 2 provides an overview of recent trends in mineral commodity markets, the growing significance of EI to many less-developed countries, and what EI might mean for ‘aid graduation’.
- Section 3 sets out frameworks for thinking about how sub-soil assets are transformed into above-the-ground assets that can foster inclusive growth, the governance of those transformations, and the intersection of industry and public policy interests.
- Section 4 presents the industry perspective. It describes the activities across the project life cycle, whilst distinguishing between the mining and oil and gas sectors.
- Section 5 discusses EI from government’s perspective, highlighting the chain of policy decisions that need to be managed effectively to maximise developmental impacts of EI.
- Section 6 provides an overview of recent donor initiatives, suggestions for improving collaboration between donors and the private sector, and lessons learned.

¹ As embodied in the recently expanded Extractive Industries Transparency Initiative (EITI) standard.

2 Extractive Industries: prices and dependence

This section provides a short overview of recent trends in mineral commodity markets, the growing significance of EI to many less-developed countries and what EI might mean for 'aid graduation'.

2.1 Recent trends

Prices of most mineral commodities have risen significantly since earlier this century. This boom in prices was interrupted by a sharp dip during the global financial crisis in 2008/9, followed by a subsequent recovery.

The prices of mineral commodities are fundamentally driven by supply and demand. The primary driver of increases in prices during the earlier part of the decade was growth in emerging economies, led by China.

More recently, a combination of falling demand – due to the recent slowdown in the global economy – and increased supply from new projects has pushed down prices of many commodities (see Figure 1). Some speculate that the recent commodity boom is drawing to a close.

Different international trends have shaped key commodities in different ways:²

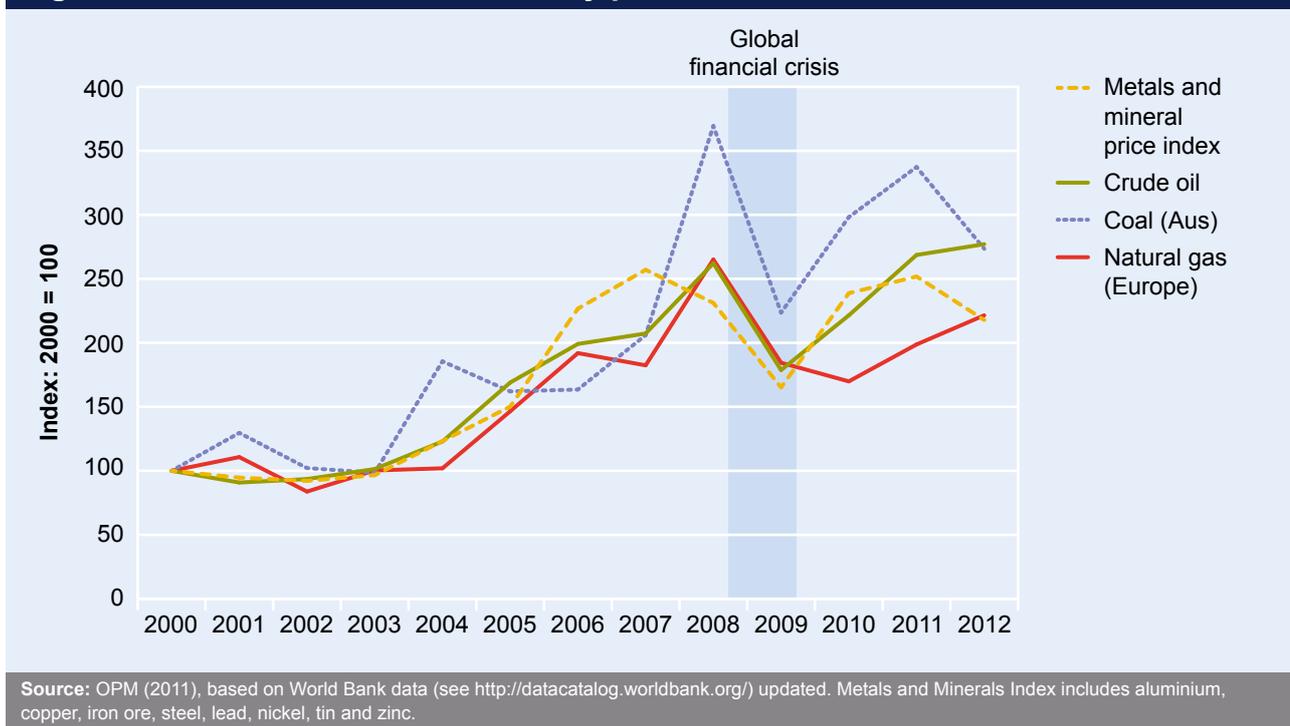
- **Oil prices** have remained high due to sustained demand from China and due to OPEC, principally through Saudi Arabia, successfully limiting member countries' oil exports;
- **Gas prices** are differentiated by producer markets. Until the middle of the last decade prices increased across the board, but recently US gas prices have fallen, reflecting the supply shock from US shale gas production. European gas prices have followed other mineral commodity price trends more closely.
- **Liquefied Natural Gas (LNG)³ prices** have more or less maintained their levels in Japan, due to price indexation to oil prices and a rise in demand for LNG from Japan in the aftermath of the nuclear power disaster; prices in Europe have mostly held up.
- **Base metals prices** have increased largely due to Chinese demand, in turn caused by continued growth in exports of manufactures and a rapid process of urbanisation. China accounted for almost all global demand growth for minerals including copper, aluminium and nickel between 2000 and 2012.

² The BP 'Statistical Review of World Energy', published each June, provides an annual analysis of major trends in energy prices, production and consumption; the BP 'Energy Outlook' provides a set of projections for global energy production and consumption, most recently to 2030.

³ 'Liquefied Natural Gas' (LNG) refers to natural gas that has been mildly compressed and cooled to -161°C (-260°F) to turn the gas into a liquid, allowing it to be 'freed' from pipelines and shipped long distances using specialised LNG tankers.

- **Precious metals prices** have increased steadily over the last decade. Unlike other mineral commodities, prices for precious metals did not suffer a sharp fall during the financial crisis. Prices of gold in particular were supported by increased demand from investors looking for 'safer' assets in times of financial market turmoil.
- **Coal prices** increased during the last decade. Since 2000 coal has been the world's fastest growing energy source, however regional trends have varied: US coal prices have fallen due to competition from shale gas for power generation, and lower prices have led to increased export demand, including from Europe.

Figure 1: Selected mineral commodity price trends



2.2 Growing significance of EI

The number of countries that rely on natural resource extraction as the main source of exports has grown in the last two decades. Between 1996 and 2010, the number of countries with a share of mineral exports greater than one quarter of total merchandise exports increased from 46 to 61 (see Figure 2). This data is presented with two caveats⁴ but provides an indication of mineral export dependence that highlights the importance of EI globally.

⁴ This data does not explain (i) whether increased export dependence is due to an increase in mineral exports or a fall in non-mineral exports, and (ii) whether a growing mineral export sector has been associated with an expanding or contracting manufacturing sector.

A growing number of newly resource-rich countries are low-income and lower-middle income countries. Of the top 40 countries with a highest contribution from minerals to export, 14 (35 per cent) were classified as low-income and lower-middle income countries. These include Chad, DRC, Guinea, Sudan and Nigeria. Although they are at different stages in the development of their extractives industries, the growing significance of EI presents similar opportunities and public policy challenges.

Figure 2: Top 40 countries with highest export contributions from minerals

Mineral and fuel dependence				Mineral and fuel dependence			
Rank	Country	2010 (%)	Change 1996-2010 (pp)	Rank	Country	2010 (%)	Change 1996-2010 (pp)
2	Iraq	99.1	14	22	Zambia	84.2	1
3	Algeria	98.4	20	23	Botswana	84.0	25
4	Libya	97.0	3	24	Suriname	79.1	7
5	Equatorial Guinea	95.5	35	25	Bolivia	77.9	32
6	Sudan	94.2	90	26	Russia	75.6	23
7	Nigeria	91.7	-2	27	Turkmenistan	75.3	0
8	Azerbaijan	91.3	26	28	Timor-Leste	74.7	75
9	Chad	90.9	91	29	Mauritania	72.2	36
10	Kuwait	90.9	-2	30	Peru	72.2	17
11	Qatar	90.8	6	31	Mozambique	72.0	65
12	Yemen	90.8	-6	32	PNG	71.6	16
13	DRC	90.5	7	33	Trinidad & Tobago	70.8	20
14	Congo	90.3	3	34	Norway	70.5	9
15	Venezuela	87.9	5	35	Australia	69.2	28
16	Mongolia	87.5	27	36	Bahrain	68.6	2
17	Guinea	86.4	5	37	Oman	67.8	-13
18	Iran	85.5	4	38	Chile	66.7	19
19	Gabon	85.3	2	39	UAE	64.6	-15
20	Saudi Arabia	85.2	1	40	Colombia	63.8	24

Key: ■ Lower-middle income (\$1,036 to \$4,085) ■ Low income (\$1,035 or less) (pp) = percentage points

Source: UNCTADstat data (available at <http://unctadstat.unctad.org>). List excludes small island states.

2.3 What will EI mean for Aid Graduation?

If more revenue from extractives means less need for Official Development Assistance (ODA) financing, then EI could lead to ‘aid graduation’. This would alter the traditional relationships between donors and host governments.

In Mozambique, presently quite dependent on donors for public finance, the combination of recent natural gas finds, and growing coal and iron ore mining, is likely to be transformative. EI seem likely to eclipse other sectors in terms of government revenue, economic contribution and political significance. Unless donors adapt their approaches to engagement, less need for their money is likely to reduce their influence.

Box 1: Uganda – managing a modest boom

The discovery of oil in Uganda generated much excitement among policy makers and international investors. In mid-2012 Uganda’s proven oil reserves were estimated at 1.1 billion barrels, with an estimated 1.4 billion as ‘yet-to-find’ prospective deposits. Based on publicly available data and authors’ assumptions, Henstridge & Page (2012) estimate that by 2030 the oil and gas sector may generate some US\$ 3.3 billion of government revenues, equivalent to approximately 31 per cent of total revenues and 6 per cent of GDP. Although the industry will not dominate all other sectors, the economic impacts will be sizeable and, unless effectively managed, potentially disruptive. This calls for a policy framework whereby oil proceeds can be invested into productive assets in the non-oil economy, including infrastructure and human capital development – areas where donors can contribute through technical support and policy advice (see section 6).

In other countries, such as Ghana, Tanzania, and Uganda, recent oil and gas discoveries are likely to have a significant impact by diversifying sources of public financing, without necessarily replacing existing sources (see Box 1). More resource revenues would add an option to public finance in addition to domestic non-resource tax, foreign and domestic borrowing and donor financing. With the finance constraint eased, the challenges facing these countries now include strengthening public finance management (PFM) systems, as well as a broad range of policy, legal, regulatory and institutional reforms.

The extent to which higher EI revenues reduce demand for budget support will vary, depending on the relative size and maturity of the EI sector. As demand for donor financing falls, the need for technical assistance could increase – but such support would need to be delivered in a way that is responsive to demand.

3 Organising frameworks

This section introduces three frameworks for thinking about EI and development through: a framework for asset transformation from sub-soil assets to human development; a framework for the associated chain of public policy decisions; and a framework for focusing donor interventions at the intersection of policy and industry interests.

3.1 Asset transformation: from sub-soil assets to human development

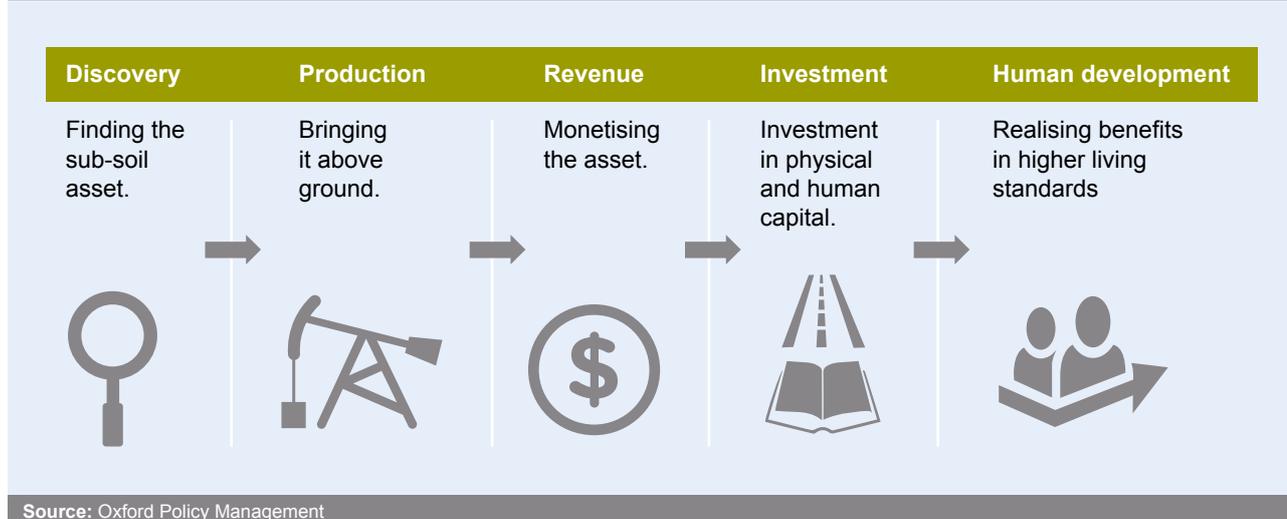
Natural resource reserves can be thought of as a national asset. When mineral deposits that can be extracted are discovered, they become a national asset, expected to yield a future stream of government revenue. Thinking of natural resource reserves as national assets means viewing the process of EI production and the link to human development as a sequence of transformations:

1. The sub-soil asset is pumped or dug up, and transformed into an above-ground commodity.
2. It is then processed and sold, which transforms it into money.
3. The operator and the consortium partners that have managed and financed this transformation are remunerated, and the government receives the remaining share of the asset as cash, usually denominated in foreign exchange.
4. The cash then helps finance public spending, with the possibility of being transformed into:
 - i. physical public capital – infrastructure, such as roads or bridges;
 - ii. individuals' human capital – through delivery of public health, education services, or cash transfers; or
 - iii. 'intangible' or 'social' capital – the institutions that shape investment and growth.

If public spending and public policy succeed in accumulating some combination of these various physical, human and social assets, then the 'yield' on them should contribute to a sustained higher income for citizens, and so help sustained economic growth and human development.

The key steps in this asset transformation are reflected in the industry value chain. This framework, as illustrated in Figure 3, reflects the transformation of sub-soil assets into physical, human, or social capital. This is the process, if managed well, that can help raise productivity and incomes.

Figure 3: Asset transformation – from sub-soil assets to development



There is a long sequence in the transformation from sub-soil state-held asset into a higher flow of private income for citizens. The difficulty in having natural wealth translate into higher living standards reflects the fragility of this chain of transformations.

Box 2: Natural assets, public finances and development effectiveness

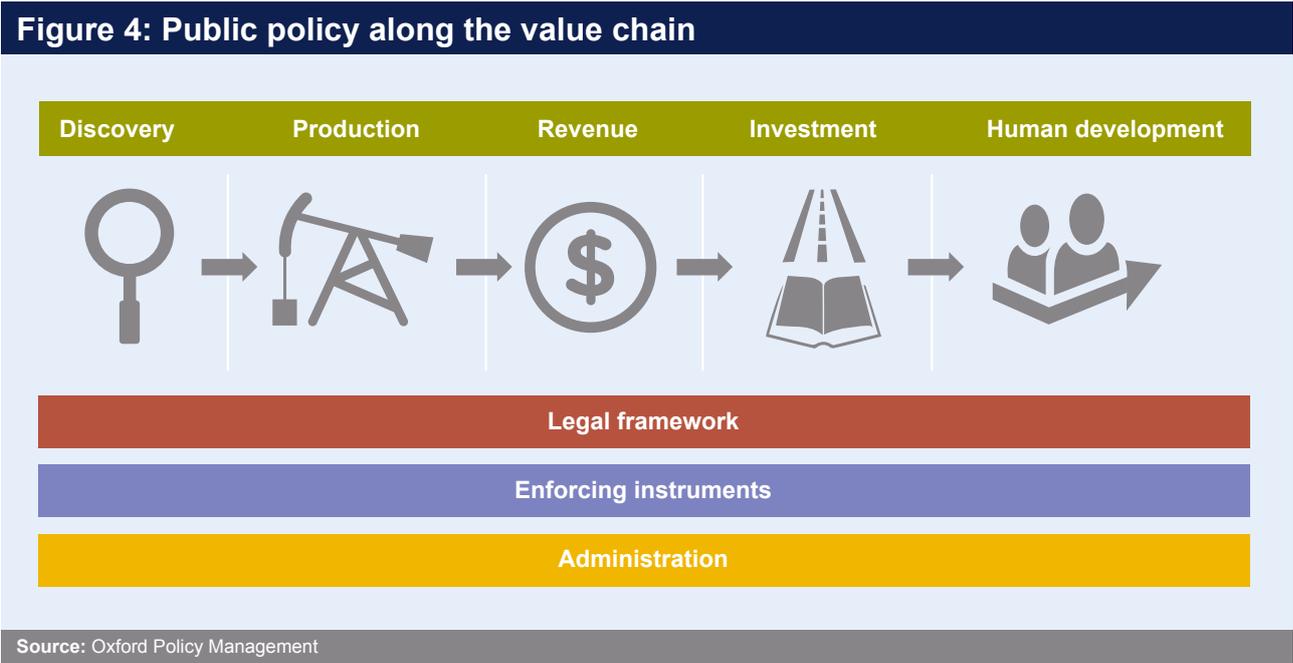
If natural resources are seen as assets, the receipts to government can be considered as stage payments as the sub-soil asset is transformed into cash over the lifetime of the mine or well. It follows that this longer-term perspective should also be reflected in decisions on rates of spending or saving out of resource revenues.

There are a range of fiscal 'rules' that governments use to allocate such revenues (e.g. between current and future expenditure, or into a stabilisation fund), however most of these focus narrowly on the resource revenue stream itself. Fiscal policy analysis needs to focus on the transformation of these financial flows into infrastructure and other public assets, including strengthened physical, human, and social capital. Dealing with that challenge draws on wider policies, from the broad sweep of a fiscal balance consistent with macroeconomic stability, down to the difficult specifics of public service delivery.

Indeed, these are the same challenges faced by donors providing financial support to governments. The problems of aid effectiveness, particularly when thought of as problems of *development* effectiveness are the same as the challenges governments face when transforming resource revenues into human development results.

3.2 The chain of public policy decisions

The industry value chain has a corollary in an associated chain of public policy decisions.⁵ The idea is that the transformation of sub-soil assets into human development needs to survive a sequence of governance challenges. This decision chain is only as strong as its weakest link. The challenges of extractives governance reflect the scale and complexity of the industry in the legal frameworks, regulation, and administrative processes necessary to sustain the value of the assets as they are transformed along the chain.



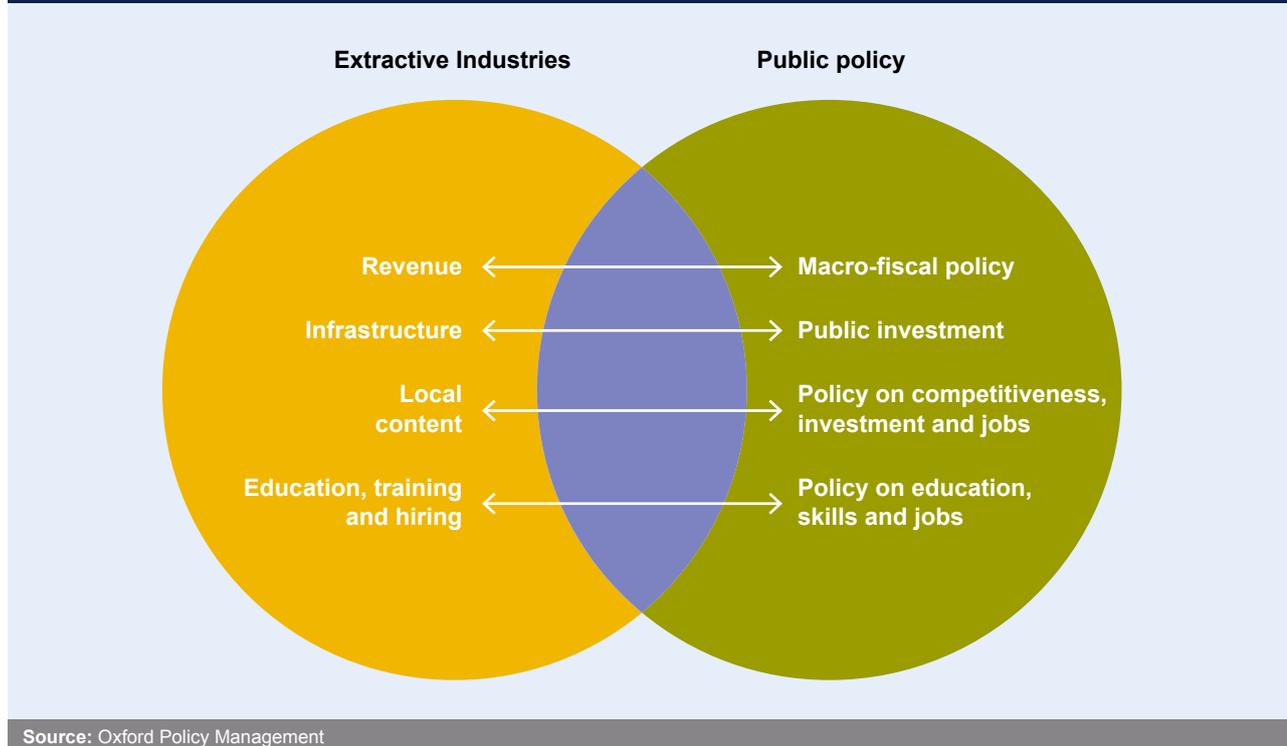
3.3 The intersection of public policy and industry interests

There are areas where the business of finding, extracting and marketing extractive resources overlaps with broader issues of public policy. Figure 5 illustrates four key areas of such overlap in interests, where the intersection represents space for potential engagement by donors.

Revenue to government. Industry has an interest in the effective management of resource revenue. If the government gets macro policy wrong, it makes for a worse place to do business in the future. Companies do not have a mandate to engage directly on fiscal policy, but collaboration, for example through sharing production forecasts, can support sound macro- management.

⁵ This is a much used framework for organising thinking around extractives. Annex A shows a range of examples of the use of the idea of a value, or policy chain.

Figure 5: The intersection of shared purpose between EI and public policy



Infrastructure investment. Most EI companies need good infrastructure, such as roads, rail, water and power, which contribute to development if it is possible to make access available to others at a low marginal cost to the industry. The potential for positive externalities is greater where several projects are in close proximity, or along a transport route to export markets.⁶

Local content. Where direct employment impacts are relatively small, the industry can have a much larger impact on indirect and induced employment through the generation of jobs in the supply chain, and through the provision of support services to develop a more specialised labour force for the industry.

Education, training and hiring. When attuned to the varying demands for labour across the project life cycle, and aligned with policy on education, skills development and jobs, there can be positive externalities in the labour market as a whole. Examples of initiatives to build skills for the mining industry include the African Mineral Skills Initiative (see Box 9).

⁶ One example is the Beira Agricultural Growth Corridor (BAGC) initiative, a partnership between the Government of Mozambique, private investors, farmer organisations and international agencies, aimed at leveraging large 'anchor' investments to bring benefits to other sectors of the economy. See <http://www.beiracorridor.com/>

4 Extractive Industries

This section provides an overview of the EI, differentiating between mining and oil and gas sectors. It gives a brief overview of the types of companies that operate in each industry; an overview of the typical life cycle of extractives projects; and highlights some factors that influence investment decisions.

4.1 Industry organisation

4.1.1 Key players

EI vary in terms of ownership structures (from fully state-owned to partially state-owned to fully private); in size (from artisanal and small scale mining to large multi-nationals); in the number of resources they focus on (from one commodity in one country to numerous commodities across the globe); in appetites for risk (from high-risk prospectors to risk-averse companies); and in how they finance their operations (from bank financing to financing from their own balance sheets).

This section highlights some of this diversity in the mining and the oil and gas sectors.

Mining

A simplified categorisation of mining companies includes large multinational companies, medium-sized companies, junior companies, state-owned companies and small and artisanal miners.⁷

- **Large multinational companies**,⁸ referred to as ‘majors’, explore and operate across the globe, are involved in every stage of the industry value chain, and are typically interested in several types of minerals. Larger multinationals are generally more advanced in their approach to social performance and social investments as well as they are more likely to follow international standards and reporting requirements (such as the International Finance Corporation’s (IFC) Performance Standards or the International Council on Mining and Metals’ (ICMM) Sustainable Development Principles).
- **Medium-sized companies** may be owned by international firms or domestic entrepreneurs. They typically focus on small to medium-sized deposits in one country or region, and they may focus on a specific mineral or groups of minerals.
- **Junior companies** (‘juniors’) operate globally but at a smaller scale. They focus on higher-risk activities (e.g. exploration) and negotiate deals with larger companies once discoveries are made (‘farm-outs’), though some also own small operations.

⁷ The following papers provide information on key actors in the mining industry: Dietsche, E., Bastida, E., and RWI (2009). ‘A mining supplement to ‘Drilling down- The civil society guide to extractive industry revenue and the EITI’ (page 100); and Aboriginal Mining Guide: ‘Module 2 Mining Basics’.

⁸ Examples include BHP Billiton, Vale, RioTinto, Anglo American, Freeport-McMoran, Barrick Gold, and Xstrata.

- **State-owned companies** usually focus on a limited number of minerals but sell on the global market, are less common in mining than in oil and gas, although there are other forms of state participation in mining that differ across countries and regions.⁹ Only a few of the privatisations in the 1980s and 1990s, have been reversed (e.g. Namibia).
- **Artisanal and Small-scale miners (ASM)** operate at a very small scale, using their own resources and adopting labour-intensive practices, such as panning for gold. Artisanal miners operate independently at a subsistence level while small-scale miners employ other workers. ASM mining typically operates in the informal sector.

There are also additional actors involved at various phases of the mining project lifecycle, such as prospectors, equipment suppliers and service providers and construction companies.

Oil and gas

The oil and gas industry is dominated by fewer big players compared to mining, and includes more majority or fully state-owned companies.¹⁰ A simplified categorisation includes:

- **Super-majors** are the six largest international oil companies: ExxonMobil, Chevron, Shell, BP, ConocoPhillips and Total. Size matters both for the balance sheet needed to finance multi-billion dollar projects up front, and for being able to take big risks.
- **Smaller international oil companies**¹¹ include companies that operate internationally but at a smaller scale than the 'super-majors'.
- **Oil exploration companies** focus on high-risk exploration activities and then 'farm out' part of their equity for drilling and project development. That means selling all or some of their shares in a consortium, usually to a bigger company better able to finance and manage the development of a project.
- **Oil service companies** provide services to the petroleum exploration and production industry but are traditionally not involved in production, although this is changing.
- **National oil companies**¹² (NOCs). Most petroleum-producing states have NOCs, which collectively control approximately 90 per cent of the world's oil and gas reserves and around 75 per cent of oil and gas production.¹³ Some larger NOCs (for example Petrobras of Brazil and Petronas of Malaysia) invest in other countries.

⁹ Several countries require that the state has some participation in mining (such as many Francophone African countries) and others have companies that are entirely government-owned (e.g. Codelco in Chile, and Gécamines in the DRC).

¹⁰ Deutsche Bank's 'Oil and gas for beginners' gives a comprehensive overview of the industry in Section I and detailed information on individual companies in Section III.

¹¹ This category of petroleum companies includes Eni, Statoil and BG.

¹² The largest include Saudi Aramco (Saudi Arabia), NIOC (Iran), INOC (Iraq), and KOC (Kuwait). NOCs also operate in Qatar, Venezuela, Russia, Brazil, Mexico, Malaysia and China.

¹³ See Tordo, S., Tracy, B. S., & Arfaa, N. (2011). National oil companies and value creation. World Bank Working Paper No. 218.

4.2 Natural resource projects – life cycle and impact

In most cases, sub-soil natural resources are defined in the constitution as being vested in the nation state 'on behalf of the people'. Viewed this way, reserves are an asset for the nation, but they only have value if the resource can be extracted. Doing the initial exploration to find reserves and then bringing them to production is often a risky, technically complex and high-cost activity.

In the oil and gas sectors, governments typically ask oil companies, as specialist contractors, to shoulder the risk of exploration and to take on significant up-front costs of capital investment. These contractors may consist of one company or a consortium of companies, potentially including a NOC. One of the consortium companies will be the designated 'operator' and manage the project on behalf of the consortium.

The capital needed to bring resources into production is typically large – for example, the all-in capital cost of producing oil in Uganda is likely to be of the order of magnitude of US\$10 billion, the capital investment needed to produce LNG in Tanzania will be around US\$12 billion. Contractors are encouraged to shoulder the risk of exploration and up-front capital investment through the granting of conditional rights to a share of the resources they bring to the surface.¹⁴

In the oil and gas sectors of most OECD countries, and in the mining sector more generally, companies typically obtain the rights to mine for minerals and produce oil and gas through a concession. This gives them the rights to extract, process and market resources in return for paying a commensurate share of royalties, taxes and other fees.

4.2.1 The project life cycle

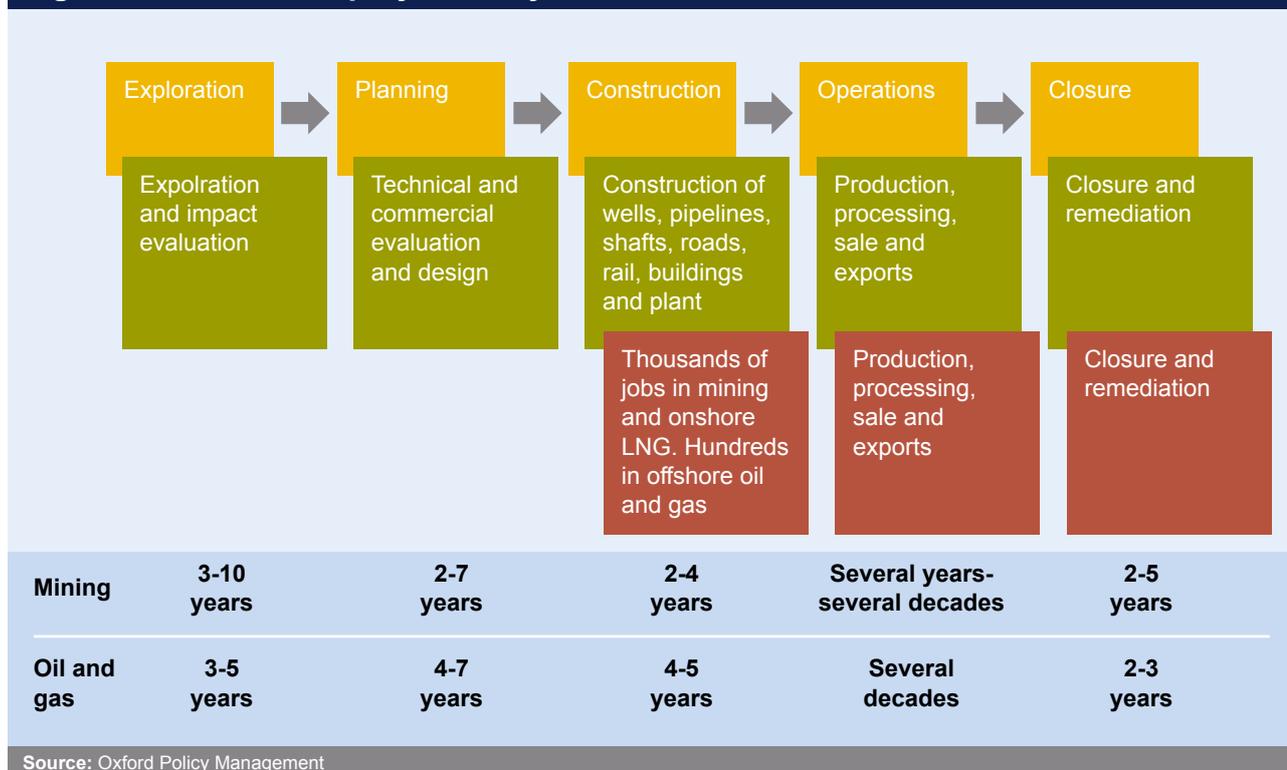
Oil, gas and mining projects typically follow a similar life cycle. Figure 6 presents a stylised project life cycle, with indicative timing for each phase.¹⁵

1. **Exploration.** All EI projects start with an exploration phase in which investors carry out geological, geochemical, geophysical and seismic surveys to identify whether hydrocarbon or mineral reserves exist and, if so, the quality and quantity of these reserves. This is then followed by drilling for samples to determine the nature of reserves in more detail. During this time Environmental and Social Impact Assessments (ESIA) for the entire project are prepared. Such studies are used to assess potential risks and establish baseline information to inform subsequent investment decisions. In many jurisdictions an ESIA is also a condition for obtaining regulatory permits (e.g. a Mining License) needed to begin construction.
2. **Planning.** Following a successful exploration phase the project enters the planning phase. This involves detailed studies of technical and commercial feasibility, and project design studies to determine if and how a project will be commercially viable. A number of factors are taken into account in these assessments (see Box 3). During this phase 'front-end engineering and design' proposals are developed that shape what kinds of inputs will be needed in the following construction and operations phases.¹⁶

¹⁴ To illustrate, the production sharing contracts agreed in the oil and gas sectors typically assign to the contractors the reimbursement of sunk capital costs, a return on the capital employed, and some compensation for risk.

¹⁵ Several guides outline these phases in more detail: 'Mining explained' and 'Mining 101' from the Mining Journal Online and Cienca Viva's 'Introduction to Mining' give details on the mining sector, Deutsche Bank's 'Oil and gas for beginners' gives details for the oil and gas sector and the USAID 'Extractives Guide' provides an outline for both.

¹⁶ See Hanlin, C. (2011), The drive to increase local procurement in the Mining Sector in Africa: Myth or reality?, Making the Most of Commodities Programme (MMCP) Discussion Paper No. 4, March 2011.

Figure 6: Extractives project lifecycles


Box 3: Investment decisions: what does industry look at?

Large-scale EI projects require large up-front capital investments. This means that contractors spend large sums of money without prospects to generate a return for several years. The combination of high risk, large investment outlays, immobile investment (and associated political risks) and payments that are far into the future mean that investors will carefully review a wide range of technical and policy issues before making a final decision to invest. Investors look at a number of issues with a bearing on project profitability or the ability of investors to protect their investment, including:

1. **Geological characteristics** that affect the costs and profitability of extraction, e.g. high vs. low value resource; location of the resource reserve (whether they are far underground or nearer to the surface); types/concentrations of mineralisation; and the type of extraction methods required (underground or open pit for mining and onshore or offshore for oil and gas).
2. **Country-specific factors** such as: the quality of infrastructure; the availability of skilled labour and supply chain companies; the ease of doing business in the country; and transport, energy and labour costs. More generally investors, in particular those committed to international industry standards – will seek a level playing field that treats all investors fairly in the application of standards and regulations.
3. **Policy factors** shaping investment decisions include the perceived stability/predictability of the EI legal framework; socio-economic and socio-political factors; clear and effective environmental regulation; and a predictable and transparent fiscal regime that determines taxation, royalties, and any obligations that a company has while operating in a country.

3. **Construction.** This phase in the life cycle is characterised by large capital investments. It involves building the extraction and processing facilities (such as the mine, wells, pipelines or processing plants) as well as the support infrastructure needed (such as roads, port facilities, staff housing and offices). It is also the phase that typically generates the largest number of job opportunities; although most of these require the successful completion of secondary education, or some 'technical and vocational education and training' (TVET), or a higher degree.
4. **Operations.** During the operations phase mineral, oil or gas reserves are extracted from the ground, processed to remove impurities or waste and transported to end-users. This is the longest phase although duration varies significantly across projects. Oil and gas projects typically last for several decades but have different production profiles.¹⁷ Mining production varies depending on the mineral being mined, and the type of mining taking place. The operational phase can last anywhere from several years to several decades.¹⁸

Although the operations phase offers fewer direct employment opportunities than the construction phase, it is the phase most likely to catalyse other development opportunities. These include: (i) indirect employment through the supply chain; (ii) induced employment through the spending of the wages and salaries of those employed by EI projects; (iii) the spending of government revenues collected from these projects; and (iv) the continued construction of infrastructure during project expansions.

5. **Closure.** When mineral, oil or gas reserves are depleted, or where resource extraction is no longer economically viable, projects enter a closure phase. During this phase the operation's infrastructure is removed in an environmentally sound manner and the site is returned to its natural state. This phase involves removing buildings, sealing off any underground openings, re-contouring the ground and monitoring the site for any environmental after-effects. This phase usually takes two to five years for mining projects and two to three years for oil and gas projects, but can take decades or more if a large amount of environmental monitoring is required.

4.2.2 Environmental impacts across the life cycle

The extraction and processing of sub-soil natural resources is associated with a range of potential environmental externalities at each stage of the project life cycle. Mining, in particular, can move large masses of land and can displace biodiversity, environmental services, as well as communities living or working in the area (see Box 4). The size of potential environmental impacts varies and may be particularly significant in sensitive eco-systems with low urbanisation and high reliance on agriculture or artisanal mining. These impacts can be mitigated if mining operations are well designed, operated, and regulated.

In the exploration and planning phases, the environmental impacts of a mining project are limited. No resettlement is needed, and the amount of earth works is limited. Off-shore oil or gas exploration activities may have positive or negative impacts on fishing or on other shore-based livelihoods if, for example, harbour facilities are developed, or become congested.

During the planning phase the operator typically prepares an ESIA to establish the potential environmental and social impacts and put in place mitigating actions. Whilst some minimum ESIA is often required as part of the permitting process, the operator may go beyond legal and regulatory compliance to assess critical risks and establish baselines in line with meeting international industry standards (e.g. IFC Performance Standards).

¹⁷ Oil production tends to peak quickly, operate at a plateau followed by falling levels of production. Gas production also peaks quickly but typically has a longer plateau at peak production and then a faster production decline than oil.

¹⁸ To illustrate, gold mining averages 8 years while copper mines average 30 years. Some diamond mines in South Africa have been operational for 50 years and are expected to be operational for a further 50.

Since they are completed in advance of investment and operations, ESIA's are ex-ante assessments and not ex-post evaluations of impact. They do however provide an opportunity for a rigorous baseline for subsequent impact evaluation, but statistically rigorous survey data is costly to collect, and is rarely formally required as part of the ESIA itself. However, as well as a baseline for impact evaluation, such survey data could support a business-like performance management framework for broader social and environmental externalities.

During the construction phase, environmental impacts can be significant, in particular for the mining sector. There may be a requirement for resettlement, which can negatively affect livelihoods if people are resettled onto less arable land. There may also be significant disturbances to ecosystems, and high dust, traffic and noise pollution resulting from earth-works. For the oil and gas sectors, environmental impacts may also be greatest during this phase as processing plants are built and pipelines are laid. Migration of the workforce during the construction phase and associated induced economic activities may also result in negative environmental impacts.

Box 4: Main environmental impacts in large-scale mining

The main environmental impacts from mining include habitat modification, erosion and sedimentation, acid drainage, release of chemical effluents into the environment, and emissions of fugitive dusts.

Habitat modification. The large disturbances caused by mining can disrupt environments, adversely affecting aquatic habitats, terrestrial habitats and wetlands, compromising livelihoods, and creating breeding grounds for mosquitos. Habitats can also be indirectly impacted by large consumption or release of water from mining processes, manipulation of topography, and the release of particulates and chemicals. Large-scale open-pit mining operations can result in deforestation through forest clearing and road construction.

Erosion and sedimentation. When a large amount of material is moved due to mining, large quantities of sediment are transported by water erosion. The sediment eventually drops out of solution and sedimentation occurs at some point downstream. Erosion and sedimentation can adversely affect soil organisms, vegetation, and re-vegetation efforts due to the movement of soil, including topsoil and nutrients, from one location to another.

Acid mine drainage formation. The soil and rock excavated to extract minerals, as well as the waste rock and 'tailings' formed during the processing, often contain sulphide minerals that when exposed to air and water will oxidise and release quantities of iron and sulphate forming acid mine drainage. The environmental impact of acid generation and drainage can be severe and can affect both surface and groundwater. High concentrations can have adverse effects on fish, aquatic plant communities and humans.

Release of chemical effluents. Some mining techniques require heavy use of chemicals in the refinery processes to produce finished minerals. In gold mining cyanide and mercury are often used to filter and separate the valuable minerals from other materials, in copper processing large quantities of sulphuric acids are used (in iron ore mining no such chemicals are required for processing). Chemicals used for processing can be released into the environment and subsequently affect water, soil, aquatic organisms, wildlife, waterfowl, and humans.

Emissions of fugitive dust. In the process of large-scale earthwork, dust emissions often arise from ore crushing, transport of crushed ore, the use of loading bins, and windblown tailings. Dust can contain toxic heavy metals such as arsenic or lead that when incorporated with dust can contaminate the air. If deposited in surface water it can exacerbate sedimentation problems.

For mining most environmental impacts are concentrated during the operations phase. For open-cast mining, this stage involves extracting the ore through large-scale earth-works. Extracted ore is then processed through various metallurgical processes, many of which generate toxic by-products. If the waste from such processes is not handled carefully, effluents may escape into the environment and pollute waterways or ground water. Similarly, there is some evidence that air pollution – in particular from older mines – may have a negative impact on crop yields and local incomes.¹⁹

Under normal operating conditions the environmental impacts of oil and gas are generally lower than those of mining. However, in the case of environmental incidents (e.g. due to a break-down in technical processes of extraction or refining) the environmental impacts may be much larger than for mining. For example, disruption to the network of oil pipelines in the Niger Delta, resulting from attempts at oil theft (so-called bunkering), or sabotage, has repeatedly caused environmental damage valued at many billions of dollars.²⁰

During the closure phase, projects are dismantled and need to be disposed of in an environmentally sound manner. Environmental impacts at this stage are minimised by careful handling and management of waste and hazardous materials, and by ensuring that companies have set aside funding for these activities, for example, through regular contributions to a 'closure fund', as mandated by sector regulation in some countries (e.g. Zambia).

¹⁹ See Aragon, F., & Rud, J. P. (2012). Mining, Pollution and Agricultural Productivity: Evidence from Ghana. IGC Working Paper.

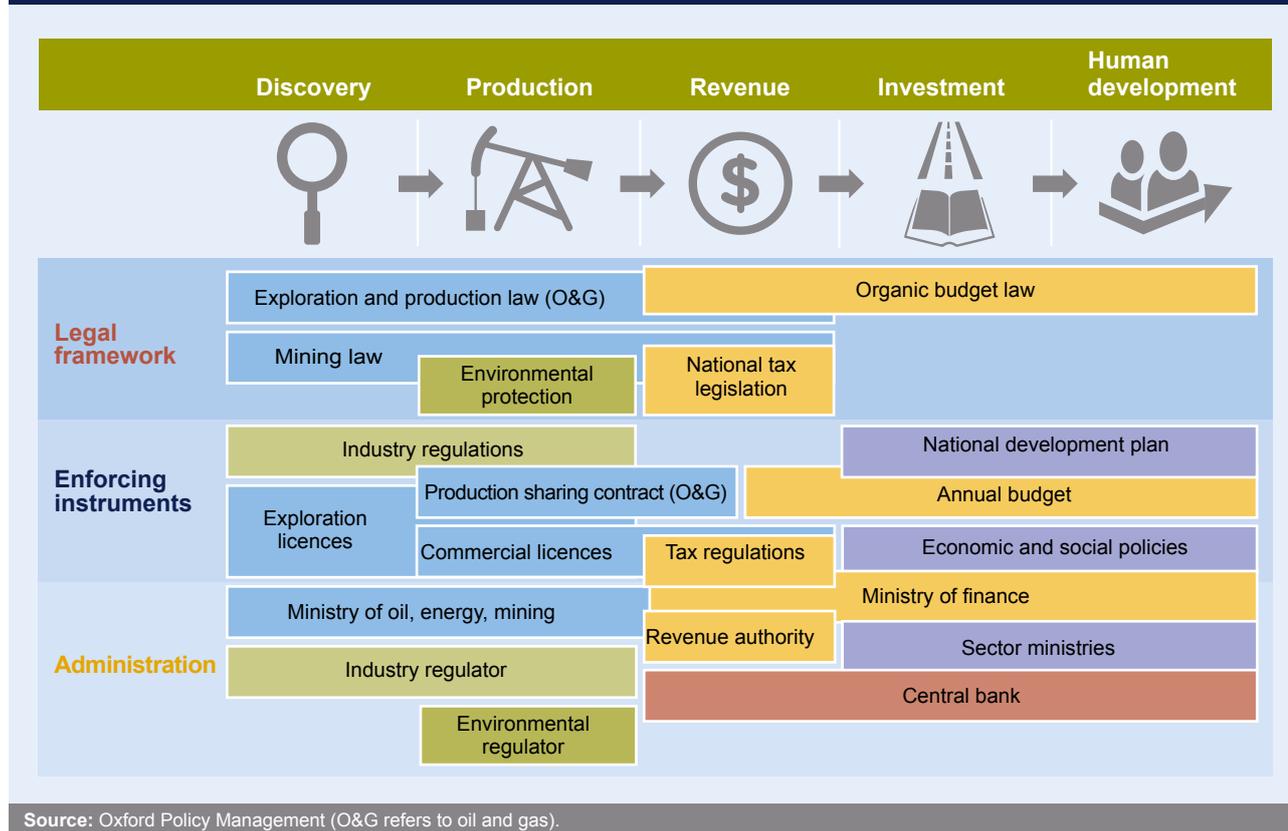
²⁰ See: Bloomberg (2013), Shell Sued in U.K. Over 'Massive' 2008 Nigerian Oil Spills. Mar 23, 2012, but also the report launched by Chatham House on September 19th 2013: 'Nigeria's Criminal Crude: International Options to Combat Illicit Oil Exports', which explores the problem of oil theft in the context of legal trading markets and Nigeria's own oil sector governance.

5 The public policy perspective

This section discusses EI from a government's perspective, highlighting the chain of policy decisions that need to be managed effectively to maximise developmental impacts of EI. It presents the general policy areas of licensing and contracts, fiscal regimes, regulation and revenue collection and management.

The extent to which EI can catalyse positive economic and social outcomes hinges on the quality of governance along a 'chain' of policy decisions. There are governance risks associated with each point in the chain, particularly in countries where domestic political and social institutions are weak, and the track record of governance poor. These risks range from the way exploration licences are issued and production contracts agreed, through to revenue management, development policy, and associated economic and social policies (see Figure 7). The risks need to be managed in a holistic framework: the overall outcome is only as strong as the weakest link in the policy chain.

Figure 7: The value chain and governance



A corollary of formal state capability for governing the EI policy chain is the extent to which accountability actors, ranging from parliament through to auditor generals and civil society, can hold the executive to account for their policy decisions and administration.

Industry associations such as ICMM also exert a form of 'soft' pressure, helping to drive transparency in the industry and thereby supporting other accountability actors. For example, ICMM publishes good practices in the mining industry (its Sustainable Development Principles), and also requires that member companies report on their own performance benchmarked against these practices.

5.1 Policy context

Most countries vest the ownership of subsoil resources in the nation state. Hence, the ownership of the surface land is divorced from the ownership of the sub-soil resources with the nation state holding a legal monopoly on granting permission to explore mineral deposits.²¹ These conditions are typically set out in the Constitution or in sector legislation (i.e. a petroleum or a minerals law) where it is also stipulated which government entity is tasked with granting permits and licences to explore and produce, in return for paying royalty, tax and other fees, and/or sharing production.

Countries vary in their allocation of sovereign power over natural resources between central, federal and sub-regional authorities. There are examples of federal states such as Australia, Canada and Nigeria where powers over mining and petroleum activities rest at the sub-national level, including licensing, monitoring and fiscal autonomy.

Many countries have state-owned national companies involved in extraction and production of minerals or hydrocarbons. In both the mining and the oil and gas sectors, national companies can be tasked with non-commercial as well as commercial objectives. In countries where governance systems are less well developed, there tends to be more controversy regarding the links between national companies and the host government, in particular where such companies hold regulatory as well as commercial mandates. For example, a national company may be tasked to regulate the sector, while also being part of a contractor consortium.

When private companies explore and develop the resources at their own costs and risks on behalf of the state, there are a variety of ways in which contracts divide the risk between the operator and the host state.²²

The attraction of investors to a resource-rich country hinges in part on the quality of geological data. If a country's geological surveying capabilities are well-developed, better data on locations of deposits will attract more investors who do not have to take the risk of initial survey work. For oil and gas projects, as well as some minerals,²³ geological surveying can establish sufficient data to run auctions to award exploration and production rights to firms that meet technical and operational criteria – thereby generating an additional revenue stream for government.

5.2 Licensing and contracts between the State and the Private Sector

In both the mining and the oil and gas sectors the government must decide on a framework for awarding rights to explore and extract, and establish the legal and financial terms governing those rights. Exploration and extraction rights may be awarded in a variety of ways. For example, the legal and financial arrangements governing the extraction process may result from licensing rounds or be negotiated on a one-to-one basis.

²¹ An exception to this global rule is the US where ownership of surface land includes ownership of sub-soil resources.

²² See <http://openoil.net/contracts-booksprint/>

²³ Mined minerals with a high ore grade (e.g. potash or phosphates) are typically more suited to auctions, as the prospector can ascertain with confidence the location of a sufficiently large volume of ore to be mined. Gold, by contrast, is often deposited in narrow seams making it less suited to auctions because uncertainty over the resource estimates can undermine the usual economic efficiency of an auction in raising revenue.

Mining

In the mining industry, the licensing procedures are often determined by law and awarded on a 'first come first served' basis (provided all legal requirements are fulfilled). Governments commonly offer two types of licence for commercial-scale mining activities: a licence to explore and a licence to mine. In some jurisdictions these are awarded through separate processes, and in others an exploration licence can be converted into a mining licence. In addition, specific ASM licences are typically available.

The security of tenure is important for the investor. Exploration licences tend to have an initial period in the range of two to four years with subsequent extension periods up to a total licence period in the range of 10 to 12 years. The licences to mine are generally in the range of 20-30 years for large deposits with the possibility of one or more extension periods, sometimes depending on the size of the ore body.

Oil and Gas

Competitive licensing rounds are typically used to award exploration and production rights to oil and gas companies, usually contained within one licence – the terms of which vary from project to project. There is no internationally recognised 'best practice' as governments use different bidding procedures that correspond to the general market conditions as well as the relative interest in prospective areas. Nevertheless the greater the competition among investors, the greater the potential benefits for the host government. Auctions are efficient at revealing private information, and, when competitive, raising revenue. They are hard to design when the government has multiple objectives for investment in resource extraction. For example, government may want to raise revenue, attract a large investor, and require assurances on the management of environmental risk. All of which are harder to reflect in an auction than by asking for bids for a signature bonus or royalty rate alone.

Contract terms for the oil and gas sector can be quite complex, and governments are often seen to be at a disadvantage when negotiating with multinational firms. This is particularly the case where terms subject to negotiation are not tightly constrained either by the terms of a licensing round or other rules. For example, investors may argue persuasively that geological risks threaten the financial viability of a project, and require a reduction in the tax rate. However, negotiation on a one-to-one basis for risky or newly opened areas can also lead to ill-governed discretion, and then to rent-seeking, or straight corruption.

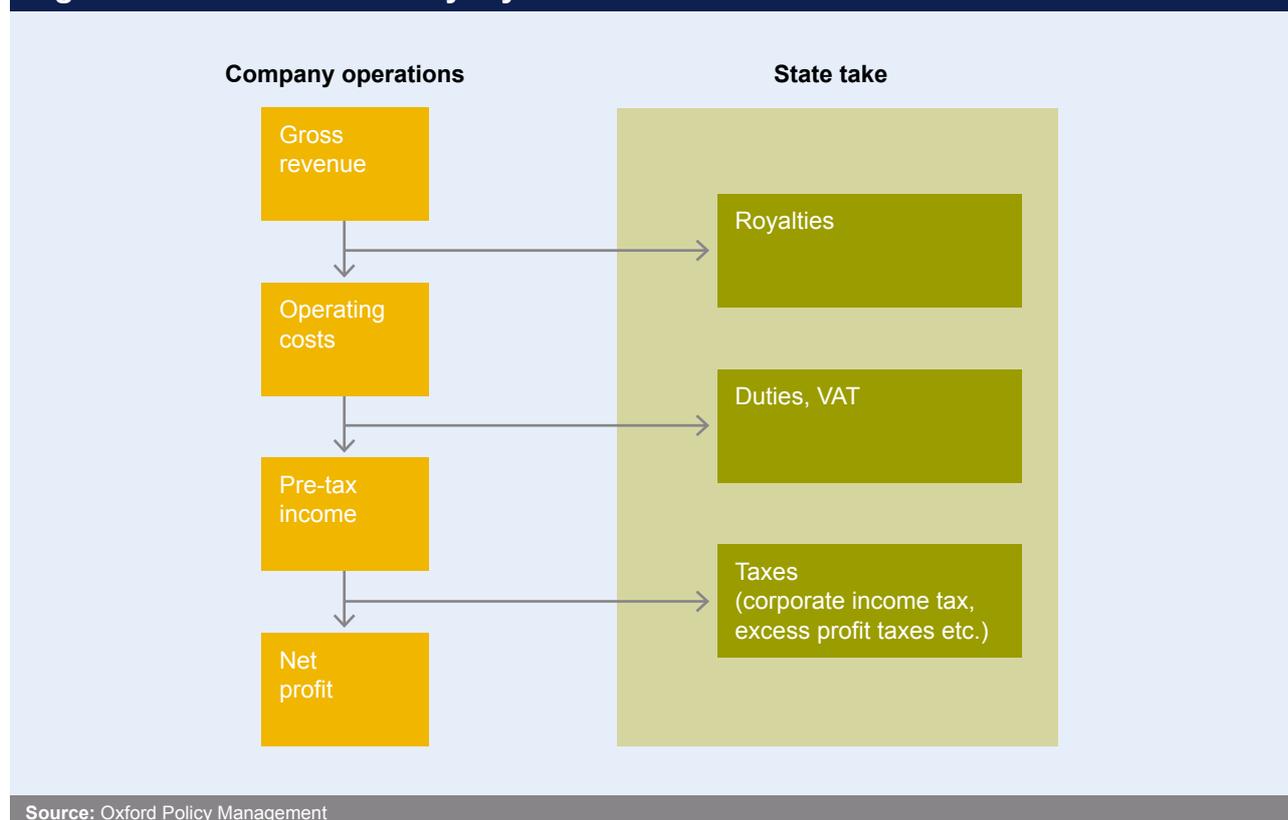
5.3 Fiscal regimes

The fiscal regime is the most critical determinant of the benefits a country can earn from its EI. In mining the fiscal regime is often enacted in the law, while in the oil and gas sector it is commonly determined by the agreements between governments and private companies. In all cases the fiscal and contractual terms determine the primary fiscal benefits the country will get from exploiting its resources, subject to these terms being sufficiently attractive to companies to invest in the first place.

Mining

The mining sector typically uses concessions or ‘tax and royalty regimes’. Under a concession, the investor owns 100 per cent of the material produced, bears all risks and funds all operations. Host government’s revenues generally consist of a royalty and an income tax, including, in some cases, additional income taxes on ‘excess’ or ‘windfall’ profits (see Figure 8). In addition companies are subject to the national standard tax laws which include VAT, import duties, employment levies and payroll tax.

Figure 8: Outline of a tax-royalty contract



Source: Oxford Policy Management

In countries with weak mining sector legal and fiscal frameworks, mining companies have often preferred to enter into Mining Development Agreements (MDAs). In MDAs fiscal and other regulatory terms are written for the specific project rather than setting out the terms more comprehensively in sector and other legislation. In response to concerns over the unbalanced bargaining between government and industry, resource-rich countries have moved away from using MDAs and made greater efforts to have fiscal and other terms (for the most part) set out in sector legislation. A common criticism of MDAs relates to the inclusion of stabilisation agreements (‘regulatory freezes’) as well as the discretionary nature of MDAs, both of which undermine the development of more comprehensive sector legislation.

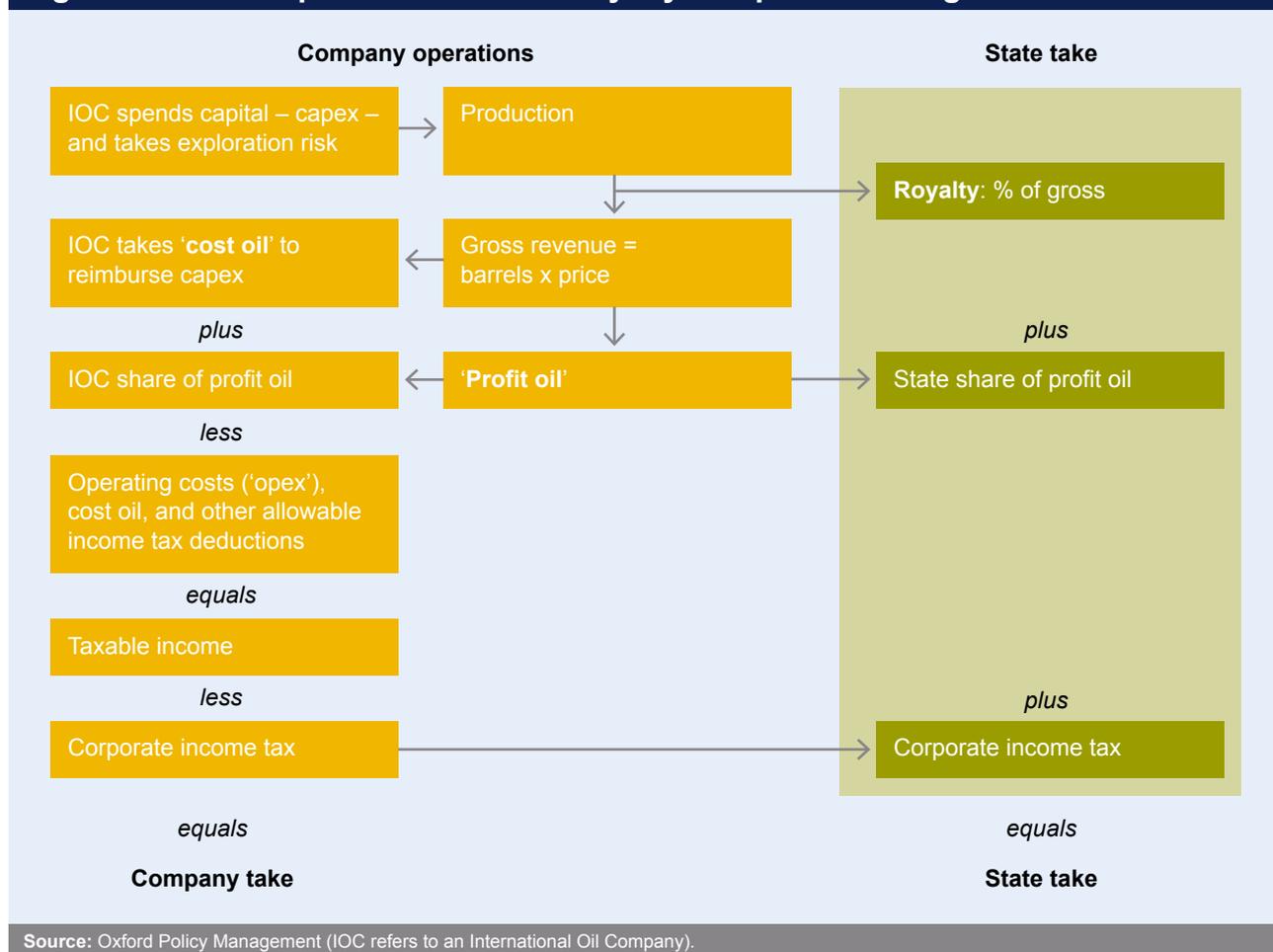
Revenues from mining operations are normally modest during the first few years of production. In these early years, the largest fiscal contributions are paid in the form of royalties. Tax payments increase significantly after a company has paid off initial capital investment costs and starts to pay corporation tax (assuming the company is making profits).²⁴

²⁴ This is set out in numerical detail for gold mining in Tanzania in ICMM, *Mining in Tanzania – What Future can we Expect*, October 2009.

Oil and Gas

In the oil and gas sectors Production Sharing Agreements (PSAs) are the most common form of new contract.²⁵ PSAs are agreements in which the government contracts a private company to carry out oil or gas operations while the government retains ownership over the oil or gas reserves. If oil or gas is discovered and subsequently extracted, the contractor is entitled to a share of production to recover capital expenditure and reimburse operating costs, usually up to a ceiling, or 'cost recovery limit'. This share of production is called 'cost oil' (or 'cost gas'). The rest of production ('profit oil') is shared between the government and the contractor according to the shares set out in the PSA. In addition the contractor is normally required to pay corporation tax on 'taxable income', or profit (see the example in Figure 9).

Figure 9: An example of a combined royalty and profit-sharing contract



In contrast to the mining sector, direct revenues from the production of oil or gas are generated as early as the first or second year of production. This is largely due to the limit on the costs that the private contractor can recover each year from these profits. Government's share of the profits may be delivered in-kind (i.e. through shipments of physical oil or gas) but is usually delivered as cash, with the government using the contractor as an agent to sell the government's share of oil or gas on its behalf.

²⁵ Also called 'Production Sharing Contracts' (PSCs).

Although less common, some countries operate Risk Service Agreements (RSA).²⁶ Like PSAs these tend to be limited to the oil and gas sectors. Under RSAs, the government, or a national oil or gas company, hires an investor as a contractor that assumes all risks and costs and is reimbursed for the service it provides. The state maintains ownership of petroleum produced. Remuneration is normally in cash, although in some countries the cash payment may be converted into an equivalent amount of petroleum by right.

5.4 Regulating the industry

Countries use a mixture of arrangements to regulate the EI sector, including independent agencies; technical units within ministries (mines, petroleum, environment, or finance); and national oil, gas or mining companies where regulatory functions are separated from commercial activities.

Regardless of the institutional arrangements chosen, regulatory agencies should be empowered to exercise effective oversight. Areas include technical supervision of EI sector operations; supervision of company operations in accordance with contracts and legislation; metering and monitoring of production; monitoring of environmental performance; technical data analysis; recording of licences and ownership interests; safety performance; and wider potential impacts on human health.

The breadth of issues highlights the importance of coordination between relevant authorities for effective governance of EI. Particularly in less developed countries, multinational companies may adhere to international industry standards that are more stringent than national regulations, for example with respect to the environment, health and safety and social performance.

Variations in the institutional arrangements between countries often reflect the relative importance given to aspects of EI regulation. In Norway, for example, safety matters are vested in a distinct petroleum safety authority within the regulatory agency, highlighting the importance given to safety considerations.

Regulatory agencies should have clearly defined responsibilities and the resources to carry out their functions. If these are not in place, a country may become vulnerable to environmental and social disruptions. For example, the risk of oil spills or mining accidents is higher in countries with weak institutions where operations are not effectively monitored and the private sector is not held to account (see Box 5).

²⁶ Examples include Chile, Iran, Iraq, Kuwait, Mexico and Venezuela.

Box 5: Environmental incidents on the Zambian Copperbelt

Konkola Copper Mines (KCM) operates some of Zambia's oldest mines, dating back to the 1930s. Following privatisation in 2002, the current owners Vedanta Resources have invested heavily in expanding mining and refinery capacity and pursued ISO 14001 certification of its operations. However much of the infrastructure is old, increasing the risk of environmental incidents.

In 2006 a pipeline transporting acidic waste-material (tailings) from KCM burst, resulting in the pollution of the Kafue river, one of Zambia's main water arteries and a major source of consumable water. According to the investigations by the environmental regulator at the time (the Environmental Council of Zambia, ECZ) the incident occurred because KCM had continued discharging acidic tailings despite having run out of the lime required for neutralisation. The acidic material burned through a pipeline and entered the natural environment. The incident appears to have followed frequent but smaller-scale discharges, highlighting an on-going issue of water pollution.

The ECZ had powers to arrest the CEO of a firm in cases of severe environmental incidents. Stakeholder interviews suggested that the ECZ was preparing for legal action, but the Minister intervened instructing them not to go ahead as it might damage Zambia's reputation as an investment destination. Importantly, the ministerial intervention was within the law as the Environmental Impact Assessment regulations (clause 24) allows the Minister of Environment to overrule ECZ decisions.

This case highlights the greater risk of environmental incidents, and the importance of monitoring and evaluation, in old mines with 'legacy' environmental liabilities. It also highlights how even strict 'formal' enforcement capabilities may not be enough if not backed up with support from the country's executive leadership. Zambia has since updated its environmental regulatory framework, replacing the ECZ with the Zambia Environmental Management Agency (ZEMA).

5.5 Revenue collection and management

A government's ability to collect revenues depends on the clarity of the fiscal regime and the ability of the authorities to collect royalty payments and tax revenues, including: adequate administrative and audit capacity; acceptable accounting and reporting standards; and regular public reporting.

As the revenues begin to arrive, the government must decide how to make effective use of the revenues. This is similar to the challenge of development effectiveness: how to turn money into sustained inclusive growth, higher living standards and human development (see Section 3, Box 2 and Box 6 on challenges of fiscal policy). Issues posed by resource revenues include:

- **Price volatility.** Swings in resource revenues raise the risk of a broader economic boom and bust, and an unsustainable debt burden. For example, high prices lead to more revenue and usually to higher spending. If prices then fall, spending usually drops more slowly than revenue, leading to increased public debt. If prices remain low then there is a reduced flow of export receipts, lower government revenue, and debt service becomes a rising share of public spending.

- **Exchange rate appreciation.** The key exchange rate is the ‘real exchange rate’, defined as the ratio of the price of tradables to non-tradables.²⁷ A boom in commodity exports leads to an appreciation of the real exchange rate, either through an appreciation in the nominal exchange rate, higher inflation, or a combination of both. This makes both non-resource exports, and domestic producers who compete against imports, less competitive.²⁸ If tradables sectors are more job-intensive than the non-tradable sectors (which benefit from a stronger real exchange rate) then overall growth may be sustained, but with higher unemployment. The more elastic the supply of non-tradable goods and services, the lower the appreciation of the real exchange rate, and the more that policy is oriented towards strengthening the competitiveness of tradables sectors (such as agricultural cash crops and manufacturing) the smaller the risk of such a ‘Dutch disease’ effect.²⁹

Box 6: A sequence of fiscal management decisions

How much can be spent? A big increase in revenue cannot be spent all at once as it would push up inflation, and strengthen the real exchange rate. If increased spending was all on imports, that would not be so tight a constraint. Unspent revenues would need to be saved offshore.

How much can new revenues increase consumption? The ‘permanent income hypothesis’ says that new resource wealth will offer a yield to the country and that therefore public consumption can increase by the amount of new income. But rigid rules need to take account of revenue volatility and are unlikely to be of much use in fiscal policy. See Venables, A.J, (2010) ‘Resource rents: when to spend and how to save’, OxCarre Research Paper 44, and: *International Tax and Public Finance*, 2010, 17, 340-56.

How much to save and invest? Most fixed rules on how much to consume do not generally allow for high social returns to investment in less developed countries, where capital is scarce. To the extent it can be absorbed, most resource-rich less developed countries need to increase domestic investment. If there is a binding absorption constraint, then ‘invest in investing’ could be an option. See: Collier, van der Ploeg, Spence and Venables (2009) ‘Managing Resource Revenues in Developing Economies’, OxCarre Research Paper 15, (and *IMF Staff Papers*, 2010, 57, 1, 84-118).

- **Managing expectations.** A frequent discourse is: “my country has oil, I should be rich, where is my money?” The expectations of wealth that drive such a discourse are too often unrealistic. There is also a specific challenge of managing local expectations around the site of a resource discovery or processing plant. Those need trust between industry and communities, supported through early consultations with communities on local impacts.

²⁷ As a rough proxy, one can take changes in the nominal market exchange rate deflated by inflation to get an estimate of changes in the real exchange rate.

²⁸ For a discussion of Dutch disease dynamics, see: van der Ploeg, Frederick, and Tony Venables (2013) ‘Absorbing a windfall of foreign exchange: Dutch disease dynamics’, OxCarre Research Paper 52, and *Journal of Development Economics*, 2013, 103, 229-243.

²⁹ In the Netherlands, a stronger exchange rate after the Groningen gas field started production led to a contraction in manufacturing and associated job losses, but overall Dutch GDP increased.

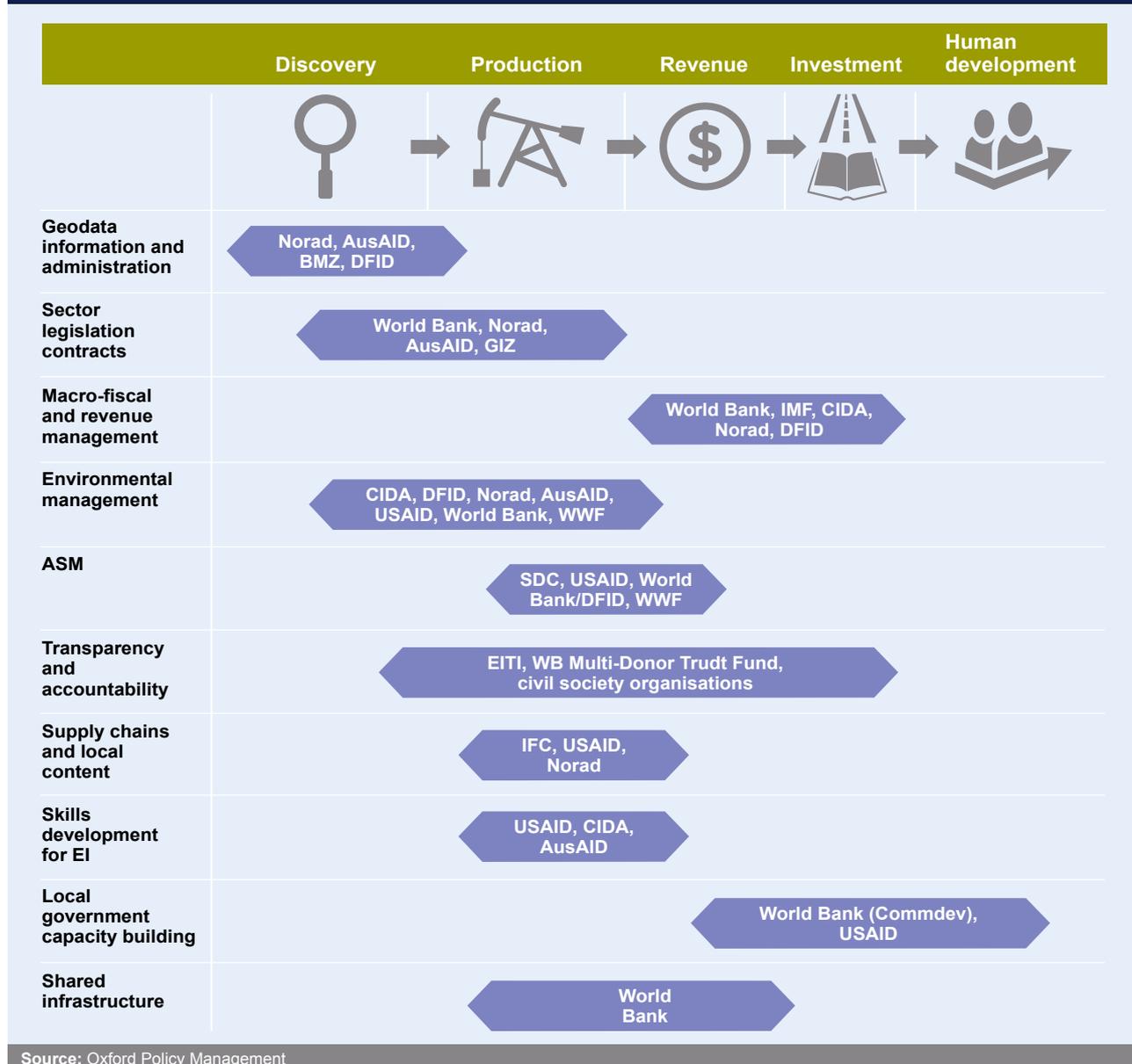
6 Entry points for donors

This section provides an overview of recent donor initiatives, suggestions for improving collaboration between donors and the private sector, and lessons learned.

6.1 Existing donor initiatives

Donors' approaches to enhance development impacts from EI have been informed by a series of shifts in thinking (see Box 7). Donor interventions can be grouped into three main categories: technical assistance for governments (and occasionally for communities); support to transparency and accountability initiatives; and partnerships with the private sector. Donor efforts can also be grouped at different points along the industry value chain, as summarised in Figure 10.

Figure 10: Selected donor activities in the EI sectors



Source: Oxford Policy Management

Box 7: Evolution of thinking in donor support around EI

The donor community's understanding of the developmental impact of the extractive industries has evolved over time. The past three decades have seen four phases:

- **Attracting EI foreign direct investment (FDI) (late 1980s/early 1990s).** In the aftermath of the economic crises of the 1980s, host countries undertook reforms to kick-start ailing economies and attract FDI, often with donor support. Favourable investment terms and conditions were seen as critical to encouraging extractive activities. Positive benefits for the country and its citizens were taken for granted.
- **Rising concerns about 'Resource Curse' (mid-1990s).** Academic research and other publications started to raise concerns about the 'resource curse', the term that has become widely used to describe negative economic, political and social outcomes assumed to be associated with extractive activities. Further research has sought to explain these outcomes and identify their causes, in relation to different types of EI activities. For examples in the literature, see: Rosser, A. (2006). 'The political economy of the resource curse: A literature survey', *IDS Working Paper 268*. Ross, M. (1999). 'The political economy of the resource curse' *World Politics*, 51(2): 297–322. van der Ploeg, Frederick (2011) "Natural Resources: Curse or Blessing?" *Journal of Economic Literature*, 49(2): 366-420.
- **'Good Governance' as the cure (late 1990s/early 200s).** The development discourse around 'good governance' prompted researchers to bring in institutional variables into the analysis of the causes of the 'resource curse'. This work led to the conclusion that 'good governance' could support better management of the extractive resources sectors. There has been a strong focus on transparency as a proxy for 'good governance' and greater accountability, as highlighted by the Publish-What-You-Pay initiative and the EITI.
- **Cross-sector linkages (late 2000s).** More recently the emphasis is on how sub-soil natural resources can be turned into forms of human and physical capital, and how EI can be integrated with the rest of the economy. This enquiry has been informed by the experiences of countries that have used their extractive industries as a catalyst for industrial development (for example Chile). It has also coincided with the re-discovery of industrial policy as a legitimate policy tool to support economic and social transformation. For example, see: UNIDO (2012) and UNECA/AU (2011): Minerals and Africa's Development.

6.1.1 Technical assistance

Technical assistance to governments has been the dominant form of support from multilateral and bilateral donors (see Annex B.1 and B.2 for a list of extractives-specific initiatives). Support has been provided across the entire extractives policy chain, including:

- **Assistance in improving geological data information and administration.** In the past Norad and AusAID provided such assistance, more recently the German Federal Ministry of Economic Cooperation and Development (BMZ) have launched technical cooperation projects that focus on mining and environmental geology and geo-resources management projects. DFID has provided indirect support to Sierra Leone.

- **Sector legislation and contract negotiations.**³⁰ A number of donors have provided assistance in reviewing and strengthening sector legal frameworks (e.g. Norad, AusAID, the World Bank, IFC and GIZ). Other donors have provided assistance with reviewing fiscal terms and supporting contract negotiations.³¹
- **Macro-economic, fiscal and revenue management.** The World Bank, the IMF and the IFC have dominated most of the assistance provided in this area, usually in the context of a broader governance agenda. Other donors include CIDA and Norad and bilateral country-specific programmes (e.g. DFID's programme supporting the Ugandan Revenue Authority). While most assistance has focused on revenue management at the national level, some recent projects broaden the focus to include revenue management at the local level (e.g. an IFC, CIDA and Norad programme in Peru).
- **Environmental policies and management.** Notable examples include: Norad's OfD programme which provides assistance to governments and CSOs; AusAID through the International Mining for Development Centre which provides technical assistance and training for developing countries; CIDA which has been active in building and modernising governance regimes for environmentally sound resource management. Other initiatives include the World Bank and Norad's 'Petroleum Governance Initiative (PGI)' which includes the environment as one of the three main thematic areas.
- **Support for ASM.** While most donor support has focused on large-scale mining, several donors have implemented programmes for the ASM sector. Generally the support has been targeted at addressing environmental hazards or has aimed to formalise the sector. Donors active in this area include SDC and USAID as well as the World Bank through the World Bank/DFID Communities, Artisanal and Small-Scale Mining (CASM) initiative. The WWF-PACE programme focuses on ASM in environmentally sensitive areas.

6.1.2 Transparency and accountability initiatives

Donor assistance has supported transparency and accountability initiatives in an attempt to improve governance in resource-rich developing countries. This has included support to transparency initiatives, support for the advocacy work of non-governmental organisations (NGOs) and through the publication of manuals and guidelines on various topics in the extractives sector (See Annex A).

Transparency initiatives have largely focused on revenue transparency through the Extractive Industries Transparency Initiative (EITI).³² The World Bank's multi-donor trust fund provides funding and technical assistance, together with support from donors such as the African Development Bank, the European Commission and the governments of the UK, Germany, Netherlands, Norway, Australia, Belgium, France, Canada, Spain and the USA.

³⁰ See Vale Columbia Center's 'Overview of contract negotiation support for developing countries' for an overview of this kind of support.

³¹ Frequently this has been done through the creation of specific facilities within donor institutions (e.g. the World Bank's Extractive Industries Technical Advisory Facility, the African Development Bank's African Legal Support Facility, and the UNDP's Regional Project for Capacity Development for Negotiating and Regulating Investment Contracts; or through the creation of entirely separate institutions partly funded by donors (e.g. the International Development Law Organisation and the International Senior Lawyers Project).

³² The EITI aims to increase transparency and improve governance in extractive industries by collecting and reconciling revenue information from the major actors in the industry, namely companies and governments.

Initiatives and advocacy work led by NGOs have also focused on improving transparency in EI sectors. Several NGOs (see Annex A) have received funding from multilateral and bilateral donors to support their work in putting ‘bottom-up’ pressure on governments and companies to account for revenue and demonstrate the developmental impacts of projects.

6.1.3 Private sector partnerships

Donors have established partnerships with the private sector or have facilitated programmes linking the private sector with government, civil society or educational institutes. The most active donors in this area have been the IFC and USAID, and to a lesser extent Norad, CIDA and the World Bank. Activities have included: supply chains and local content initiatives; education and skills development; shared infrastructure projects; environmental management; and capacity building for local government.

- **Local business development, supply chains and local content.** The IFC’s ‘Oil, Gas & Mining Business Linkages’ programme³³ develops local supply chains by facilitating access to finance for small businesses, and training and capacity building for Small- and Medium Enterprises (SMEs) in industry standards and tendering processes; USAID’s micro-finance and business training programmes³⁴ and SME development programmes;³⁵ Norad’s ‘Nkosoo 2015’ initiative in Ghana which supports collaboration between the national oil company (GNPC), a Ghanaian research institute (STEPRI) and a Norwegian research institute (SINTEF).
- **Sector-specific skills development.** USAID in collaboration with Chevron and BP provide vocational training and workforce development in Asia, Middle East and Africa, including Angola (where a business training centre was established) and Indonesia (where a technical training college was established); CIDA has also supported skills development e.g. through a project in Burkina Faso to improve vocational and technical training, in collaboration with IAMGOLD, Plan Canada and the Ministry of Education.
- **Local government capacity building.** The World Bank’s CommDev fund provides capacity building for local government in revenue management; and USAID have worked in partnership with Yanacocha Mining Company in Peru and with BP in Indonesia to strengthen municipal financial management, with Chevron in Angola to strengthen local governance and with SUAL in Russia to improve municipal planning.
- **Shared infrastructure projects.** One example is the World Bank’s ‘Integrated Growth Poles Project’ which involved collaboration with Rio Tinto and various government authorities for the construction of a dual use port in Madagascar.

33 These have included projects in Ghana (with Newmont Mining), Zambia (KCM), Guinea (Rio Tinto) and Mozambique (BHP Billiton). Chad, Nigeria and South Africa have also benefited from the programme.

34 With Chevron in Angola.

35 With Rio Tinto in Madagascar.

- **Environmental awareness.** Examples include the World Bank's Global Gas Flaring Reduction Partnership (GGFR) which brings together industry (including BP), government and other stakeholders to reduce gas flaring globally; the 'Oil Gas and Mining Sustainable Community Development Fund' (CommDev) which provides IFC clients with assistance in managing environmental risk; and USAID have partnered with TNK-BP and SUAL in Russia to promote energy efficiency and environmental governance, with Rio Tinto in Madagascar to promote conservation efforts and with BP in Indonesia to promote sustainable forest management; DFID's Facility for Oil Sector Transparency (FOSTER) programme in Nigeria, which works with stakeholders in the Niger Delta on issues of environmental monitoring and management.

In addition to the donor initiatives listed above, there are several industry-led approaches aimed at developing multi-stakeholder partnerships to improve the development impacts of EI. These include ICMM's 'Mining: Partnerships for Development Toolkit' and the preceding 'Resource Endowment Initiative'; the oil and gas industry association's (IPIECA) Local Content Strategy guidance document; and the World Economic Forum's Responsible Mineral Development Initiative.

Lastly, there are many examples of companies unilaterally partnering with public sector institutions. For example, BP endowed a Chair in Economics at the University of Oxford and provided ten years core research funding to the Oxford Centre for the Analysis of Resource-Rich Economies (OxCarre) in the Department of Economics to support research to strengthen economic policy in resource-rich economies. Other examples include the Vale Foundation's Strengthening Public Management initiative in Brazil, and partnerships with local businesses (e.g. Anglo American's Anglo Zimele initiative).

6.2 Options for collaborating with the private sector

There are areas of common interest where both industry and government stand to gain, as illustrated by the intersection in the Venn diagram, and where both could be willing to invest. Investment in these areas has a positive impact on sustainable development through the positive externalities that they generate. It is in these areas of intersection that donors could play an important coordinating role, recognising however that much of the vital information sits with companies.

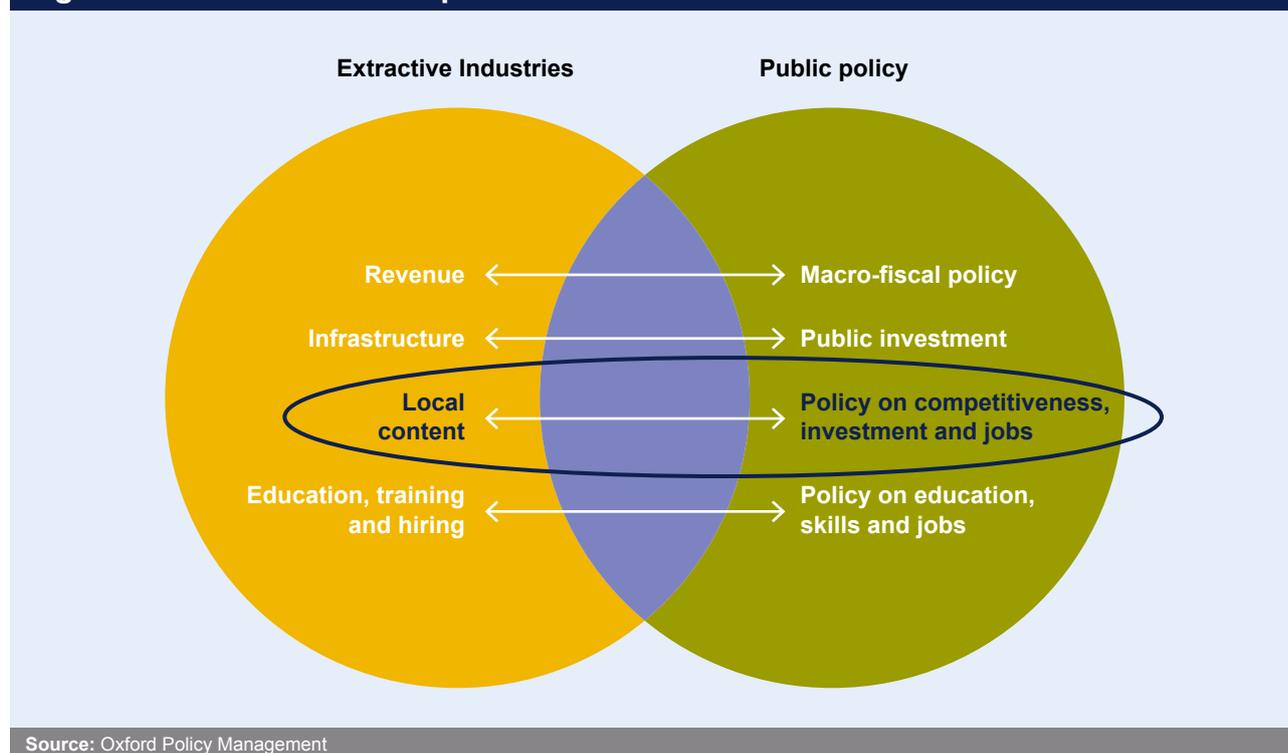
Of the areas of intersection, three stand out as being important areas of potential partnerships for countries in Africa with a youthful population looking for work: the local content in the supply chain; the possible externalities to education and training; and public investment in physical and human capital. All three offer opportunities for partnerships where donors and the private sector can leverage on each other's strengths to create successful programmes. They are discussed, in turn, below.

6.2.1 Local content in the supply chain

Partnerships to increase the local content in supply chains can support broader private sector development. Many companies want to increase the local content of their supply chains. Not only does this reduce costs but it also helps secure their social licence to operate. However, many local suppliers (if they exist at all) lack the capabilities to supply the right goods or services to industry standards. Many EI companies have attempted to address supplier development, with mixed success.

Donors can draw on their experience in private sector development to help design supplier development programmes and support improvements in the general business environment. EI companies have a clear incentive to invest in supplier development and will therefore be willing to commit necessary resources. One of the key findings of past partnership efforts is that supplier development requires long term commitment. This is something that industry, unlike donors, might be able to sustain. Industry can continue implementing programmes even after donor support comes to an end. But donors can play an important part in supplying the information required to appropriately design and set these programmes up.

Figure 11: Business development



Box 8: The Ahafo Linkages Programme in Ghana

Newmont worked with the IFC to establish the Ahafo Linkages Programme (ALP) in 2006/7, based on the Newmont/IFC experience at the Yanacocha mine in Peru. The ALP operates through a dedicated Local Suppliers and Contractors Development Unit at the Ahafo gold mine, with the following objectives:

- **Mining supply chain development.** To develop local businesses that are existing or potential suppliers to the mine.
- **Local economic development.** To improve the competitiveness of local non-mining related businesses in order to diversify the local economy.
- **Capacity building.** To strengthen the capacity of local business associations and institutions that provide training services to the local business community.

Unlike many other linkages programmes that target 'national' suppliers, the ALP is focused on 'community content', with an area of intervention limited to 12 communities located in the mining lease area. Reflecting this focus on community content, micro businesses (with up to 5 employees) made up 90 per cent of suppliers involved in the ALP, providing basic goods and services (paints, catering, transportation).

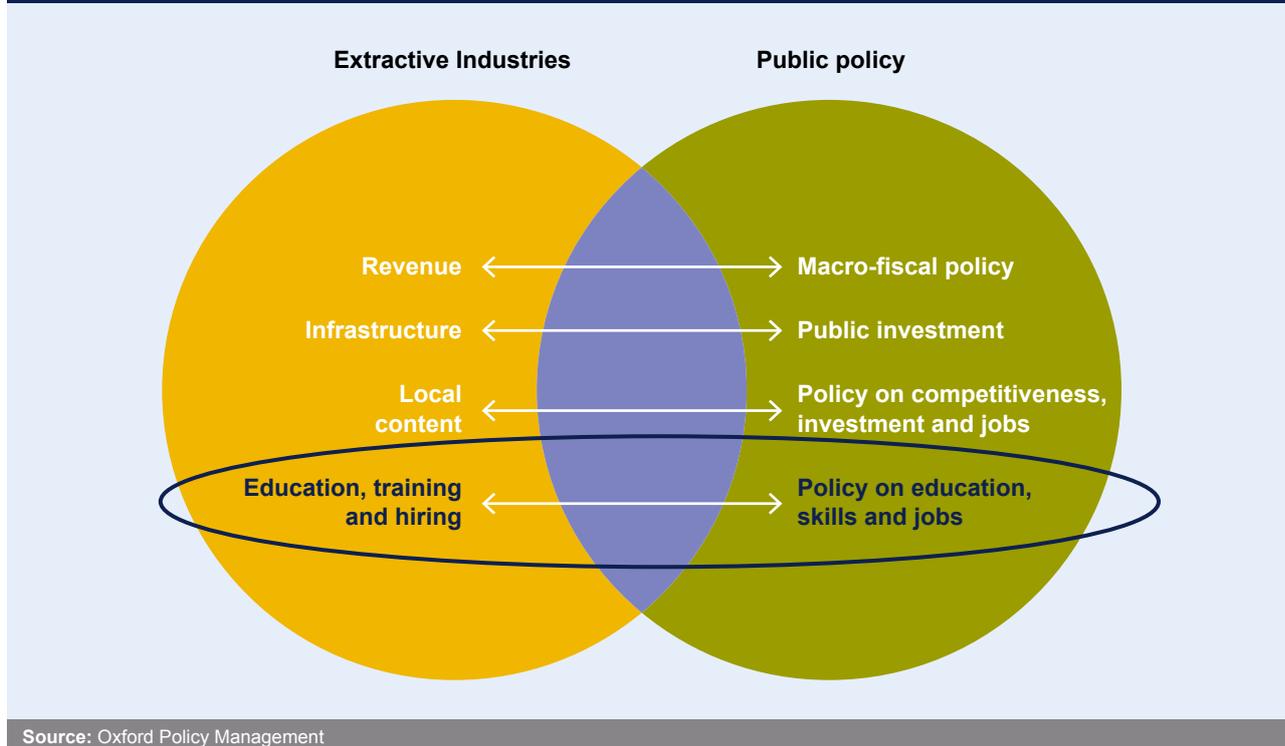
Key findings from a recent review include:

- After two years of implementation, the number of local MSME suppliers had grown from 25 to 125, with the value of contracts increasing from US\$ 1.7 million to US\$ 4.7 million (p.6).
- By April 2009, 101 MSMEs involved in the ALP had shown improvement in formal business practices (48 mining suppliers and 53 non-mining companies).
- Around half of MSMEs that received capacity building reported success in obtaining bank credit.

The impact of institutional support to the Local Business Association appears to have been influential in increasing membership and improving services offered by the association (including training in business practices).

6.2.2 Education and training

Companies want to, or are obliged to, hire nationals, but often find a lack of relevant skills in many less-developed countries. In particular short supply are people with secondary education and those with sector-relevant technical and vocational skills at a medium and advanced level. Donors can play a role in coordinating the efforts (see Box 9); industry can play a role by providing advice on the types of skills that are needed and when, advising on curricula, and providing funding and practical opportunities for skills development. It is critical for the industry that skills development programmes are set up well before the labour force is needed, in particular with respect to the most labour intensive construction phase which typically lasts only for a couple of years.

Figure 12: Skills development**Box 9: The African Mineral Skills Initiative**

As highlighted in the 'Africa Mining Vision', the jobs that are created directly or through the supply chain, and the economic impact of workers' salaries when spent in the local economy, often constitute the earliest visible impact of large-scale mining. However the rapid investment over the last decade, to take advantage of booming commodity prices, has led to widespread shortages of many skills demanded by the extractives industries.

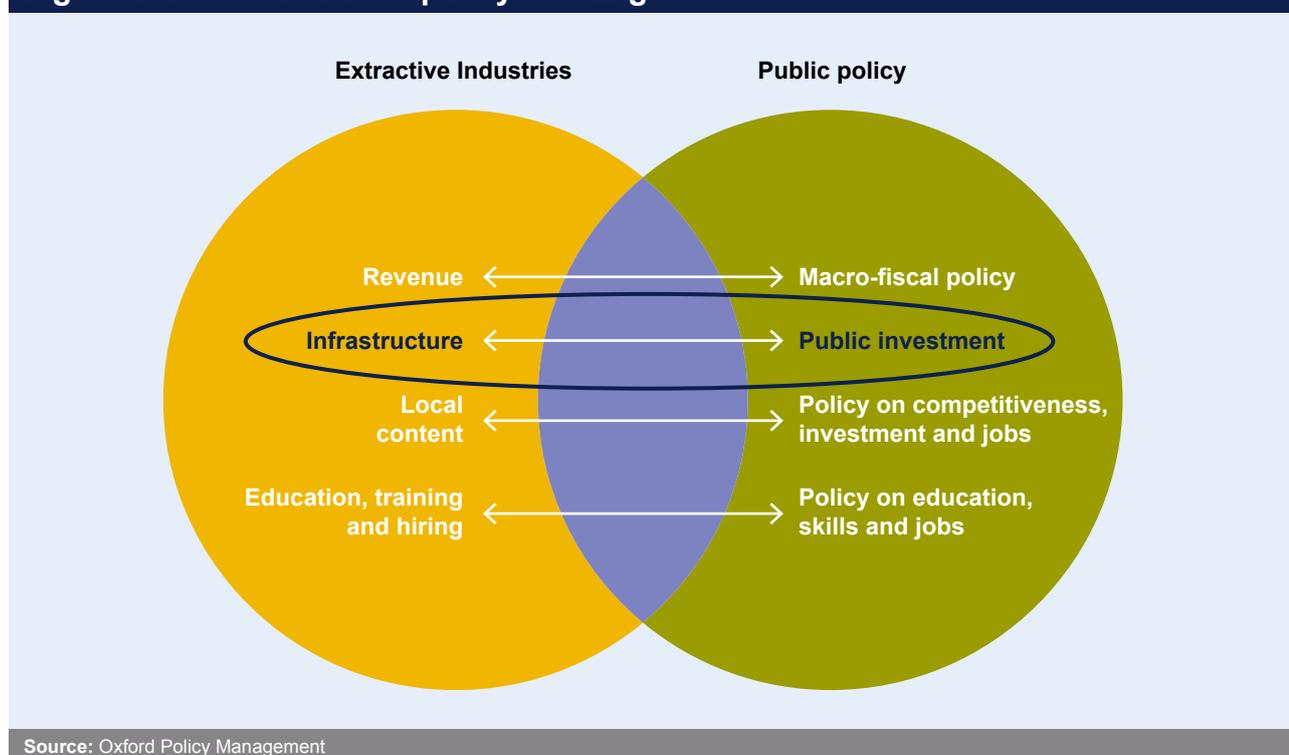
To implement the Africa Mining Vision and its action plan, the African Union, the United Nations Economic Commission for Africa (UNECA) and the African Development Bank (AfDB) have established an African Mineral Development Centre (AMDC). Within the AMDC, the African Mineral Skills Initiative (AMSI) has been set up as a multi-stakeholder private-public partnership, including UNECA, donors (AusAID) and industry (AngloGold Ashanti).

AMSI's overall mandate is to support improved policy and planning frameworks for the extractives industry through country mining visions (CMVs), and innovative approaches to expand Africa's minerals skills base. The initiative is exploring modalities, including a challenge fund, for identifying and supporting in-country providers of education and skills development.

6.2.3 Public investment by local government

A third key area of potential partnership is the capacity building of local governments to manage and invest resource revenues. Local governments suffer from administrative and human capacity constraints yet are often responsible for the delivery of public goods and services in areas where resource extraction takes place. Industry has an interest in improving public services in the area in which they operate. Capacity building for local governments can improve service provision and also mitigate negative environmental and socio-economic impacts on communities. Donors' experience in government capacity building, including in public financial management, make them well-placed to work with industry to support government capacity building (see Box 10). Other areas of capacity building include strengthening of domestic environmental and health and safety standards to bring these up to international best practice, thereby promoting industry's objective of having a level playing field.

Figure 13: Government capacity building



Box 10: Public finance and expenditure management in Brazil

Brazil's two Growth Acceleration Funds (*Programa de Aceleração do Crescimento*, PAC) provide for significant sources of public funds for municipal (local government) authorities. However these funds do not always reach their intended recipients, as municipalities often lack the technical know-how and the management systems to identify available federal funds, to apply for transfers, and to implement projects.

Vale's Public-Private Social Partnership initiative has sought to address these problems through two parallel processes.

- First, Vale engages with the central ministries involved in disbursing federal funds. It seeks to identify lines of credit (often ear-marked for specific purposes such as infrastructure) that are appropriate for the rural municipalities where it operates.
- Second, Vale engages with municipal governments where they operate through 'technical cooperation' to help build capacity (through various sub-contractors) in applying for available funds and implementing projects using these funds. Through this technical co-operation local governments have been able to build improved capacity to map demand, supply technical information for project design and develop monitoring tools to help manage the release of funds. During this process, the municipal government remains ultimately responsible for the execution of the work.

Vale has devoted significant resources to help its host municipalities gain the capacity they need to maximise their access to available federal funds that might not otherwise be available to them. There is evidence of successes, but also examples of constraints including the challenge of scaling up Vale's PPSP initiative, delays and discretion in awarding PAC funds, and improving the effectiveness of spending once funds have reached the municipal level.

6.3 Lessons learned

There are few publicly available and systematic evaluations outlining the developmental impact of donor interventions in the extractive industries. However, based on available evidence, several lessons can be learned from donors' experiences to date.

6.3.1 Technical assistance

Technical reforms perform better where donor interventions have invested more broadly in improving institutional capability as well as the capacity of accountability actors to support good governance. Donor interventions focusing on narrow technical areas (e.g. to improve geo-data systems or strengthen specific areas of policy) can help to achieve specific outputs (e.g. attracting FDI, managing macroeconomic indicators etc.). However, the experience suggests that interventions to address technical weaknesses are not enough:

- Oxford Policy Management's evaluation of Norad's petroleum activities found that despite some successes in technical capacity building, the overall success of their programmes was limited by a lack of broader institutional capacity building.

- SDC found that initial programmes narrowly focused on technical solutions to addressing environmental problems of mercury pollution had limited success until a more multidisciplinary approach addressing the legal and institutional dimensions of ASM formalisation was adopted.
- Comparative research assessing the performance of national oil companies (by Stanford University and Chatham House) and the use of natural resource funds³⁶ have also supported the view that technical adoption of particular institutional forms does not guarantee the delivery of the functions expected to be associated with these.

Institutional reform programmes should be tailored to a country's existing institutional capacity.

If existing institutional and administrative capacity is limited, comprehensively designed institutional reforms can overwhelm governments and pose a risk of reforms derailing altogether. The Chad-Cameroon pipeline project was praised for its technical and financial success, yet over-ambitious revenue management arrangements, together with limited political support, led to a dramatic deterioration of governance and the resurgence of civil conflict.

Sub-national government entities and local communities should be supported. In the case of revenue sharing arrangements or decentralised fiscal systems, local government entities require the necessary skills to manage revenues and mitigate 'local resource curse' effects. Support for those in surrounding communities may also be needed, e.g. through targeted cash transfers or local government capacity building. Local skills gaps due to poor-quality education mean that fewer people are able to take advantage of economic opportunities that extractive projects can generate (such as direct employment or supply chain opportunities).

Donor efforts need to be better coordinated. Host countries often receive support from a number of multilateral and bilateral donors, which leads to a duplication of efforts and constraints on the government (an example is Uganda). In general there has been a shift towards improving donor coordination, for example through the World Bank/Norad Petroleum Governance Initiative (PGI).

If increased resource revenues prompt an exit from donor development finance, then the basis for delivering other forms of support needs to change. The balance will shift towards external support being shaped by demand, rather than supply. The delivery model of technical assistance will likely need to be more flexible, and more at arms-length from the donor organisation. There are only a few examples of this approach to technical assistance, but some significant successes among them – including the DFID-funded FOSTER project in Nigeria.³⁷

³⁶ Humphreys, Macartan and Martin Sanbu (2007). The Political Economy of Natural Resource Funds. Chapter 8 in Humphreys et al (2007).

³⁷ FOSTER is at arms-length from DFID in that the engagement and the projects undertaken are identified with the FOSTER office in Abuja, and not necessarily seen as either DFID engagement nor DFID projects. This frees FOSTER from the inevitable 'baggage' that goes with being closely associated with a bilateral or multilateral donor. It also allows FOSTER to be flexible and opportunistic – responding quickly to a request, or perceived demand for analysis or support.

6.3.2 Transparency and accountability initiatives

Transparency and accountability initiatives have had some success in improving access to information, but with limited impact on improving governance. An evaluation of the EITI has shown positive results at the country level: more countries are providing publically available data on EI revenues and many for the first time. For example, Nigeria was one of the first countries to implement the EITI through 'NEITI' (the Nigeria Extractive Industries Transparency Initiative'). However the World Bank's Independent Evaluation Group failed to find evidence of improved revenue management or reduced corruption.

Transparency in itself is not enough to address the challenges of managing EI. Academic papers have corroborated this concern. A review by the Institute for Development Studies (IDS) on the impact and effectiveness of transparency and accountability initiatives concluded that the emphasis on revenues rather than expenditures is misplaced, and that interventions are often process-oriented rather than outcome-oriented. For example, there is limited evidence to show that the EITI has had a significant influence on its ultimate objective, to improve governance in resource-rich countries, pointing to the need for a broader resource value chain approach.

6.3.3 Private sector partnerships

Donors and industry do not speak the same language. Donors considering partnerships with the private sector must have an understanding of how the extractive industries work. Partnership programmes should be tailored to address the challenges specific to the phase in the lifecycle that a project is in. Donors also need to understand the nature of the company they wish to partner with since companies vary widely, e.g. in the sophistication of their social investment frameworks and their experience of working with donors and government. Increased understanding of the industry leads to programmes that are more appropriately designed and ultimately more effective. Initiatives such as the ICMM's 'Mining: Partnerships for Development' recognises that donors, governments and industry often speak different languages, and have had some success in opening up dialogue between different stakeholders.

Community engagement is critical to mitigate negative and enhance positive outcomes of projects. EI projects bring with them a number of environmental and social challenges for surrounding communities (see Section 4.2.2). Research has found that projects with more effective community engagement have had greater social impacts and experienced fewer social conflicts. However, companies often experience difficulties in interfacing with communities and local counterparts which dilutes the impact of otherwise well-designed social investment programmes. Donors could play a useful role by working with industry to facilitate effective stakeholder engagement and strengthen the capacity of communities or local government institutions.

Long-term commitment is required for success in many of the partnership areas. For example, supplier development initiatives, aimed at building capabilities of local SMEs in supplying the EI sectors, is by its nature a long-term endeavour that requires the gradual learning of new firm capabilities. Similarly, sector-specific skills development and local government capacity building also take time and require commitments beyond the normal planning horizon of most donor projects. Since most private and public organisations face short-term objectives,³⁸ the challenge for development partners is to recognise the importance of long-term commitment and structure the incentives accordingly.

Partnerships can be an effective way to address local government capacity building. Capacity is often lacking in local governments that have difficulty managing revenue and planning public investments. Even in the absence of donor support, partnerships between mining companies and local government have been successful at capacity building (e.g. Vale Foundations' Strengthening Public Management initiative). The experience of USAID also shows that donor partnerships can be effective at strengthening existing, or encouraging new, partnerships that companies on their own would have been reluctant to undertake.

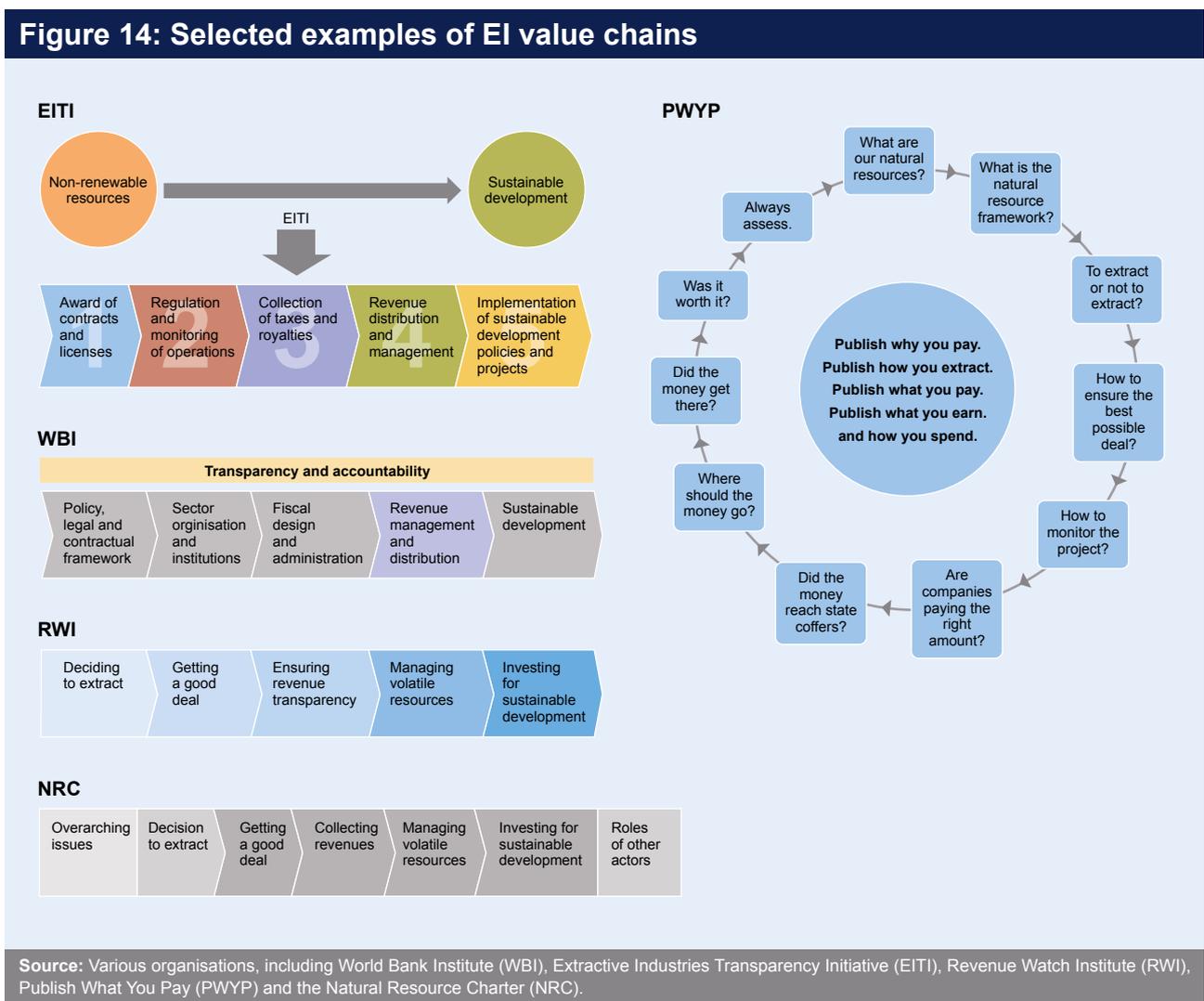
³⁸ For example, due to compensations plans, budgets and elections.

Annex A:

Common approaches to the EI value chain

There are many variations for thinking about the chain of decisions that need to work together in order for policy makers to maximise benefits from EI (see Figure 14). These approaches, variously termed policy-, decision- or value ‘chain’ have one thing in common – the overall outcomes are strongly determined by their weakest link. For example, adequate bargaining capacity, transparent licensing procedures and effective tax administration will not maximise benefits from EI unless government is also able to spend revenues in an accountable and efficient way.

Figure 14: Selected examples of EI value chains



Source: Various organisations, including World Bank Institute (WBI), Extractive Industries Transparency Initiative (EITI), Revenue Watch Institute (RWI), Publish What You Pay (PWYP) and the Natural Resource Charter (NRC).

Annex B:

Extractive Industry initiatives

Bilateral initiatives

Some bilateral donors have established their own cross-cutting extractive industry programmes and initiatives. These include:

- **Norway's Oil for Development programme** which builds on the bilateral technical support that the Norwegian government has provided for many years but expands into support for revenue management and environmental management.
- **AusAid's Mining for Development Initiative** which comprises a wide range of activities, including support to global and regional initiatives and research and skills development activities, in collaboration with multilateral organisations, academic institutions and private sector entities.
- **CIDA's Natural Resource Management** approach which guides their activities across a number of bilateral and regional programmes in resource-rich developing countries.
- **The German government's Global Extractives Resources Initiative (GERI)**, which is still to be piloted.

Multilateral initiatives

Several multi-donor trust funds dealing with the extractives sector have also been established in recent years:

- **World Bank – Extractive Industries Technical Advisory Facility (EI-TAF)** Established in 2009, this facility has been the response of the WB's Sustainable Energy, Oil, Gas and Mining Unit (SEGOM) to growing demand from governments for a rapid response advisory service, which traditional WB instruments could not provide. Assistance is provided on demand and by an advisory team of 5-7 experts from a variety of fields (legal, financial, sector, environmental, social expertise etc) and aims to be country-specific.
- **IMF Topical Trust Fund – Managing Natural Resource Wealth (TTF-MNRW)** The Fund was launched in May 2011 and it aims to finance technical assistance targeted at helping developing countries overcome the 'resource curse' through effective management of resource wealth. It focuses on building capacity in specialised thematic areas (fiscal regimes, licensing and contracting; revenue management; macro-fiscal, PFM and expenditure policy; natural resource asset and liability management; and statistics for natural resources). The contributing donors include Norway, Switzerland, Netherlands, Australia, Kuwait, EU and Oman.
- **IMF Topical Trust Fund – Tax Policy and Administration (TTF-TPA)** although this trust fund does not focus exclusively on extractives, it is complementary to the TTF-MNRW as it provides assistance to low and middle income countries for improving revenue policy and administration.

Extractive Industry manuals and guidelines

An important additional output of multi-stakeholder collaboration around resource transparency has been the publication of manuals and guidelines and other materials aimed at sharing and disseminating knowledge on the extractive industries. Outputs are often compiled in collaboration with academic institutions and/or individual researchers and experts. Examples include:

- Natural Resource Charter supported by the Oxford University.
- EI Sourcebook compiled by the Centre for Energy, Petroleum and Mineral Law and Policy – University of Dundee.
- Publications compiled by the Vale Columbia Center and its collaborators.
- Global Reporting Initiative's 'Sustainability Reporting Guidelines'.
- OECD's 'Due Diligence 'Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict Affected and High-Risk Areas'.
- UN Practical Manual on Transfer Pricing for Developing Countries.
- RWI's 'Drilling Down: The Civil Society Guide to Extractive Industry Revenues and the EITI'.
- IMF Guide on Resource Revenue Transparency.
- World Bank's 'Extractive Industries Contract Monitoring Roadmap'.
- World Bank's 'Mining Community Development Agreements – Source Book'.
- World Bank's 'Gender Dimensions of Artisanal and Small-Scale Mining A Rapid Assessment Toolkit'.
- World Bank's 'Mineral Resource Tenders and Mining Infrastructure Projects Guiding Principles'.
- USAID's 'Alliance Industry Guide: Extractives Sector'.
- ICMM's 'Mining Partnerships for Development' toolkit.

Transparency initiatives

Among the most prominent examples of NGOs committed to promoting transparency that receive funding from governmental and private sector sources (including extractive industry corporates) are:

- **Global Witness** which investigates and campaigns to prevent natural resource related conflict and corruption.
- **Publish-What-You-Pay** is an NGO coalition which advocates for mandatory revenue transparency.
- **Revenue Watch Institute** provides capacity building support for civil society and technical support to governments.
- **International Alert** aims to influence the policies of governments, international organisations and multinational companies to reduce conflict risk.
- **Transparency International** advocate for legal and regulatory reform and work with organisations, companies and individuals wishing to combat corruption.

Contact us

If you would like to discuss OPM's extractive industries insights and expertise, please contact Mark Henstridge or your nearest OPM office.

OPM Oxford

Mark Henstridge
Email: mark.henstridge@opml.co.uk
Tel: +44 (0)1865 207 300
www.opml.co.uk

OPM Pretoria

Stephanie Bockerhoff
Email: stephanie.bockerhoff@opml.co.uk

OPML Jakarta

Smita Notosusanto
Email: smita.notosusanto@opml.co.uk

OPM New Delhi

Aparna John
Email: aparna.john@opml.co.uk

OPM Dhaka

Asheq Rahman
Email: asheq.rahman@opml.co.uk

OPM Islamabad

Abdur Rauf Khan
Email: rauf.khan@opml.co.uk

OPM Kathmandu

Suresh Tiwari
Email: suresh.tiwari@opml.co.uk