

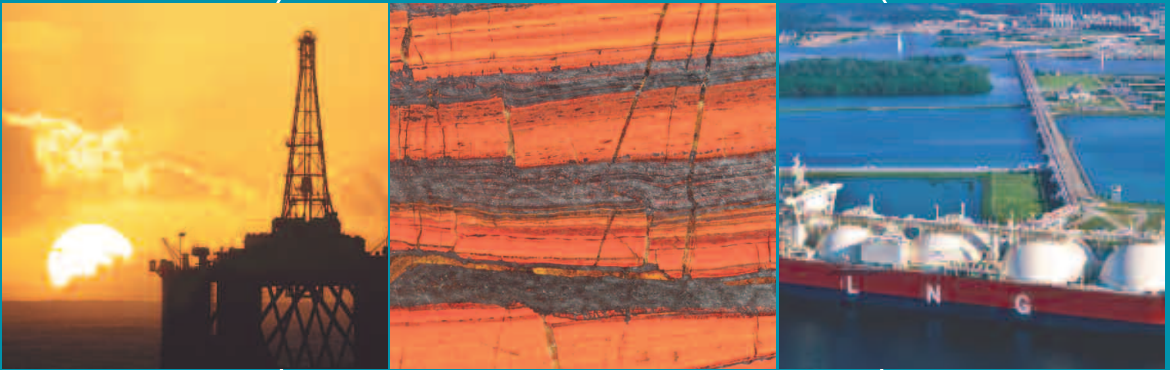
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Extractive Industries for Development Series #3

Africa Region Working Paper Series #125

March 2009

Extractive Industries Value Chain



A Comprehensive Integrated
Approach to Developing
Extractive Industries

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THE WORLD BANK

A working paper by the Oil, Gas and Mining Policy Division and the
Africa Poverty Reduction and Economic Management Department

World Bank Group's Oil, Gas, and Mining Policy Division
Oil, Gas, Mining, and Chemicals Department
A joint service of the World Bank and the
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The Oil, Gas, and Mining Policy Division series publishes reviews and analyses of sector experience from around the world as well as new findings from analytical work. It places particular emphasis on how the experience and knowledge gained relates to developing country policy makers, communities affected by extractive industries, extractive industry enterprises, and civil society organizations. We hope to see this series inform a wide range of interested parties on the opportunities as well as the risks presented by the sector.

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ACKNOWLEDGMENTS

The lead author of this report is Eleodoro Mayorga Alba, from the Oil, Gas, and Mining Policy Division of the World Bank (COCPO). Special thanks go to Michael Levitsky, Silvana Tordo, and Sheila Shahriari of COCPO for their valuable contributions to this report.

The report has benefited from the guidance of a number of World Bank and IFC colleagues whose assistance is gratefully acknowledged. The following reviewers in particular have provided insightful comments and guidance in finalizing this report: Paulo de Sa, Michael Stanley, Allison Berg, Alexandra Pugachevsky, John Strongman, Georg Caspary, and Mauricio Rios Ibañez (all in COCPO), and Clive Armstrong of the International Finance Corporation (IFC). Many thanks also to Sudhir Shetty and Linda van Gelder, Africa Region Poverty Reduction and Economic Management Department; Francois Rantrua, Africa Region; Kai Kaiser, Public Sector Governance unit, Poverty Reduction and Economic Management Department; and many other colleagues from the World Bank and the International Monetary Fund for their valuable contribution and support.

Finally, special credit goes to Esther Petrilli-Massey for her editorial support and assistance with the publication.

ACRONYMS

ASM	Artisanal and Small-Scale Mining
CASM	Communities and Small-Scale Mining
COCPO	World Bank Oil, Gas, and Mining Policy Division
CommDev	Community Development Program
EI	Extractive Industries
EITI	Extractive Industries Transparency Initiative
GDP	Gross Domestic Product
GGFR	Global Gas Flaring Reduction Initiative
IDA	International Development Association
IFC	International Finance Corporation
IMF	International Monetary Fund
MTEF	Medium Term Expenditure Framework
PEFA	Public Expenditure and Financial Accountability Initiative
PER	Public Expenditure Review
PGI	Petroleum Governance Initiative
PRSP	Poverty Reduction Strategy Paper
TA	Technical Assistance
TF	Trust Fund
WBG	World Bank Group



INTRODUCTION

Proper stewardship of revenue from the oil, gas, and mining industries has tremendous potential to lift people out of poverty and contribute to sustainable development. These industries create jobs directly and indirectly, transfer technologies and knowledge, and generate significant income. These benefits provide governments with a financial base for infrastructure development and social service delivery. The extractive industries, and the petroleum sector in particular, are known for generating high economic rent—the difference between the value and cost of production—and the government’s share of this rent can be very large in times of high commodity prices, as in the last several years.

However, extractive industry (EI) revenue has some characteristics—volatility, uncertainty, exhaustibility, and the fact that it originates largely from abroad—that challenge policy makers. Many resource-rich countries have fallen prey to the “resource curse,”¹ under which poor policy choices and corruption have exacerbated the cycles of poverty and conflict. The World Bank has been working closely with governments to support transparent, sustainable management of their mineral and hydrocarbon resources to maximize development gains and reduce poverty.²

The World Bank has strongly supported the Extractive Industries Transparency Initiative (EITI)³ since its launch in 2002. The EITI seeks to help resource-rich countries maximize the development gains from the exploitation of their oil, gas, and mineral resources by encouraging greater EI revenue transparency. Through the verification and full publication of payments made by companies and revenues from oil, gas, and mining received by governments, the EITI helps to safeguard against corruption and provides a powerful illustration of voluntary engagement of governments, industry, civil society and other stakeholders to establish a locally implemented global standard.

The EITI, however, does not cover all the challenges that the EI bring to resource-rich countries. Public reporting of EI revenue, though extremely valuable, represents only one step in improving sector governance and maximizing development outcomes throughout the EI value chain. How these resources are actually developed and how the revenue generated ultimately is spent will determine a country’s success in achieving long-term growth and sustainable development.

¹The resource curse refers to the paradox that countries with abundant natural resources tend to register lower economic growth than countries without these natural resources. This happens for many different reasons, including difficulties in developing and implementing sound and sustainable spending and saving policies in the face of large, volatile, and uncertain revenues and a decline in the competitiveness of other economic sectors (caused by appreciation of the real exchange rate as resource revenue enters an economy).

²For information on general World Bank Group governance and accountability policies, consult <http://worldbank.org/gaccouncil>.

³For information on the EITI consult: <http://www.eitransparency.org>, and <http://www.worldbank.org/eitif>.

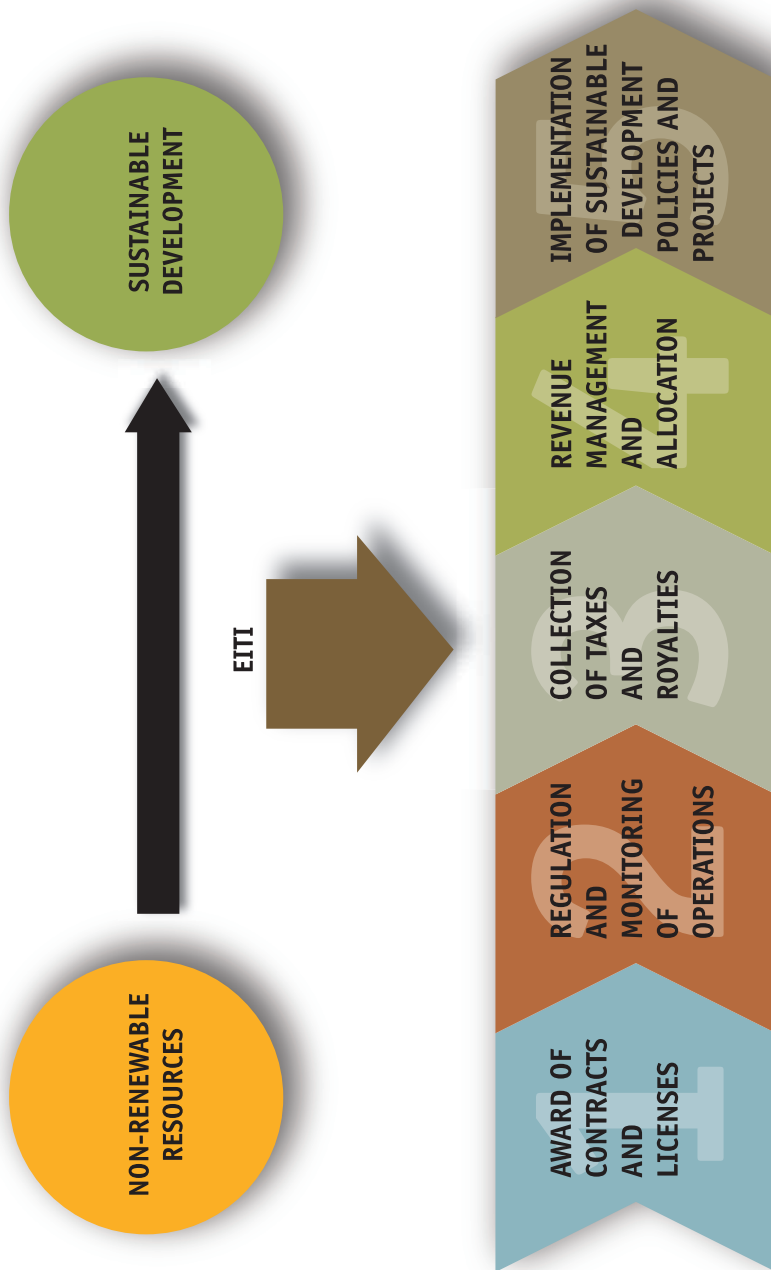
The World Bank, with other development partners, is stepping up its efforts to provide a more integrated and comprehensive approach to managing the full EI value chain, including all the steps of EI development and impact. The EI value chain encompasses awarding contracts and licenses, monitoring operations, enforcing environmental protection and social mitigation requirements, collecting taxes, distributing revenue in a sound manner, and implementing sustainable development policies and projects (figure 1). This approach aims to support countries in their efforts to translate mineral and hydrocarbon wealth into sustainable development. It can be integrated into the World Bank's Country Assistance Strategies for resource-rich client countries and serve countries with great resource potential that decide to address the resource curse issues at an early stage of development.

The next five sections of this paper describe steps to improve EI revenue management, transparency, and accountability at each link of the value chain. Annex 1 provides a checklist of issues to be considered in establishing a robust and sustainable EI value chain in a country.

The EI value chain approach can be integrated into resource-rich countries' development plans and poverty reduction strategies. As such, it represents a path toward combating the resource curse, raising standards of living, and helping achieve political and social stability.

This publication is a working paper by the Oil, Gas and Mining Policy Division and the Africa Poverty Reduction and Economic Management Department.

FIGURE 1: VALUE CHAIN FOR EXTRACTIVE INDUSTRIES



LINK 1: AWARD OF CONTRACTS AND LICENSES

Governments grant hydrocarbon or minerals exploration, development, and production rights in particular areas or blocks by means of concessions, leases, licenses, or contracts, depending on their legal systems.

Efficient and effective award policies exhibit the following characteristics:

- *Transparent, competitive and non-discretionary procedures for the award of exploration, development and production rights*
- *Clear legal, regulatory, and contractual framework*
- *Well defined institutional responsibilities*

Legal and Institutional Frameworks

The legal basis for the ownership of hydrocarbon and mineral resources and their exploration, development, and production is established in the constitution in many countries. Normally, a sector law (hydrocarbon and/or mining law), which is formulated at the parliamentary level, sets out the principles of law. Provisions that do not affect principles of law, or that may need periodic adjustments (such as technical requirements, administrative procedures, and administrative fees), are set in regulations. The sector law and related regulatory and contractual frameworks will be most effective if they reflect the government's key policy decisions. A well-defined sector law usually includes the following elements: definition of the role of the state; security of title; freedom to operate on a commercial basis; access to resources; comprehensive environmental protection requirements; and a framework for fiscal terms.

It is best that the state's role and authority to regulate and administer the sector be clearly distinguished from the investors' role to explore, develop, produce, and sell the resource. Similarly, where state-owned petroleum or mining companies exist, defining their roles in the law can help avoid conflicts of interest. In some hydrocarbon-rich countries, national oil companies often participate in exploration and production activities through a variety of arrangements. In some cases, national oil companies negotiate contracts and licenses with private investors on behalf of the state, although ideally this is the role of the sector ministry or a specialized agency to avoid conflicts of interest. Whatever the institutional arrangement, technical capacity and market knowledge are needed to assess the geological potential of the areas for which a contract or license is being offered and to adequately mitigate the country and project risks that may arise with the award of such a contract or license.

The award of exploration and production rights in the minerals and hydrocarbons sectors is generally more efficient when transparent, nondiscretionary procedures and competitive conditions are applied. In addition, because a certain degree of technical and financial capability is required to carry out exploration, development, and production activities in both sectors, normally licensing regulations or guidelines define the minimum capability that companies must demonstrate to be granted these rights. These are usually established in accordance with the project characteristics and the development phase of the project.

How the economic rent in mining and hydrocarbon operations is shared between the government and the investors is an important policy question. In the mining sector, fiscal terms are generally set by law. Petroleum sector law defines the framework for petroleum operations and the basic structure of the fiscal terms, while project-specific terms are usually set in the relevant contract or license. An equitable fiscal regime is critical to achieving contract stability and fair rewards. However, good fiscal design without complementary institutional structures still may not achieve the desired goals.

A progressive fiscal regime—where the percentage due to the government of the basis for tax and other payments increases as the basis increases—can better adjust to changes in prices, volumes, and projects' operating conditions. Such flexibility is particularly important given the high volatility of oil, gas, and mineral prices in recent years. In addition, the projects' long duration leaves them more likely to be able to respond to changing economic conditions. Progressive fiscal regimes, especially if linked to the projects' profitability, help ensure that the government and investors share benefits fairly.

Contractual and fiscal terms should and in most cases do reflect market conditions, government policy, and geological and country risks. Because licenses or contracts for a given geographical area are not all negotiated at the same time, their terms are usually more favorable to investors prior to any discovery of natural resources. Once a discovery is made or production is started and infrastructure is in place, the perception of risks declines and the government's negotiating position improves.

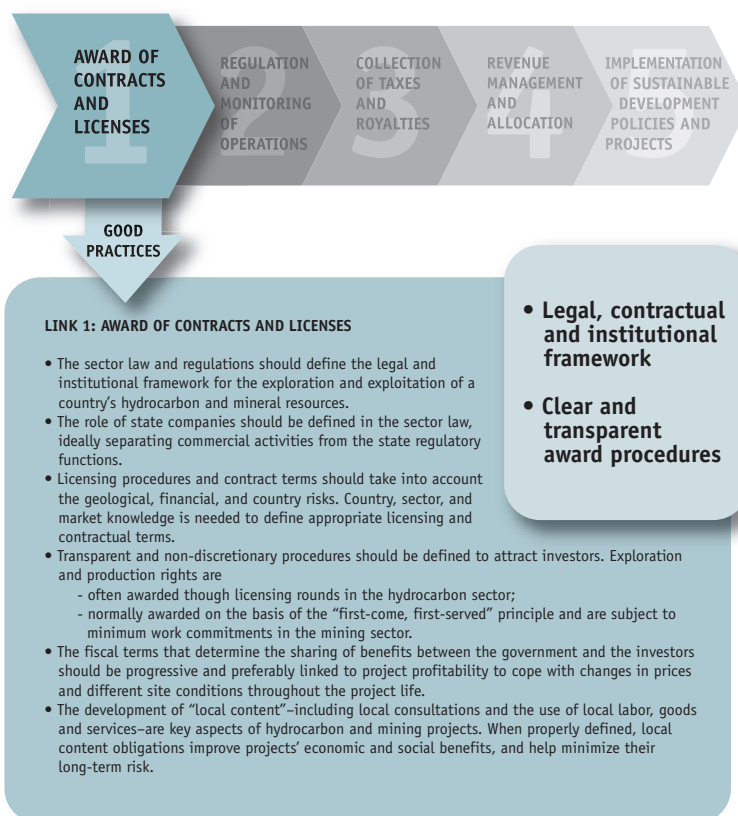
Bidding Procedures

Governments usually award hydrocarbon exploration and production rights to qualified investors following competitive licensing rounds. The organization of competitive licensing rounds is greatly facilitated by the wide access to modern information technology for storing, managing, and accessing data, which allows greater transparency and lower administrative costs. Bidding procedures differ among countries. Some use rigid systems with only a few biddable parameters that affect the sharing of benefits between the country and the investors. Some award hydrocarbon rights on the basis of the work program. In some others, many terms are negotiable. There is no model bidding system or strategy that governments globally can adopt. Determinations about the most appropriate bidding system should take into account the general market conditions as well as the relative prospectivity of the areas on offer. Intuitively, licensing rounds are more likely to increase competition among oil companies to the benefit of the host government. However, given that projects in risky or newly opened areas often attract a lower number of potential investors, direct one-to-one negotiations between

government and potential investors may prove more cost effective than licensing rounds, at least initially.

In the mining industry, the basic terms for awarding mining rights to companies are defined in the sector law, which often applies the “first-come, first-served” principle. Mining licenses usually establish the investor’s obligation to carry out certain activities within a specified period of time (the “minimum work commitment” or “minimum expenditure requirements”). In addition, specific time-bound procedures apply for the exploitation of commercial discoveries. Minimum work commitments and exploitation procedures are usually designed to ensure that mining rights awardees actively look for and promptly develop commercial accumulations of minerals.

Transparent and nondiscretionary procedures for the award, terms and conditions of mineral and hydrocarbon rights are likely to favor greater competition among potential investors to the benefit of the host government. However, contract terms, in particular for oil and natural gas, are often quite complex, reflect specific project and market conditions, and may change over time. State-owned companies, large multinational corporations, and medium and small private companies usually tolerate different levels of risk and demand different rates of returns. As a result, contracts require flexibility and may not accommodate a one-size-fits-all model. Nevertheless, the use of model contracts usually reduces the government’s and investors’ transaction costs.



LINK 2: REGULATION AND MONITORING OF OPERATIONS

A clear and comprehensive regulatory framework, coupled with the ability to enforce it, helps support the goals of transparent and efficient EI management.

Two key steps for improving the efficiency and effectiveness of regulation and monitoring of EI projects are to:

- *Ensure that responsibilities of the various government entities are clearly defined and that these entities' authority, institutional capacity and available resources are commensurate with their responsibilities*
- *Build sufficient capacity for monitoring regulatory compliance*

Regulatory Framework

Establishing a capable and strong regulatory capacity is critical to success in monitoring EI operations. Different arrangements are used in different countries, depending on policy objectives and capacity constraints. Some countries have established independent agencies to regulate EI operations and monitor regulatory compliance. Others rely on technical units within the relevant sector ministries (mines, petroleum, environment, or finance). In the oil and gas sectors of some countries, operational compliance monitoring is delegated to the national company. In this case, to avoid a potential conflict of interest, it is good practice to ensure that the national oil company's regulatory functions be completely separated from its commercial activities.

In the mining sector, a key institution for the management of mineral rights—including granting, maintenance, and cancellation—is the mining cadastre.⁴ The establishment of a public register and of a consistent procedural system is critical to increase transparency in the allocation of mineral rights, guarantee the security of tenure, facilitate the management of competing land use (such as in protected areas), enhance the understanding of the country's geological potential, and improve the reliability of government estimates of resource revenue. A strong mining inspectorate is very useful, among other things, to (1) enforce sector regulations regarding exploration and exploitation, safety, health, and environmental practices (generally including the

⁴The Ministry of Mines would usually house the mining cadastre, although some countries have decided to create completely independent institutions. The cadastre is a public register or survey that defines or re-establishes boundaries of public and/or private land for purposes of ownership, mineral rights and taxation. Similarly, the Ministry of Petroleum would normally house the petroleum data bank for the collection and conservation of geological, geophysical, and petrophysical data as well as a hydrocarbon license management unit (although in some cases the national oil companies are entrusted with the management of the petroleum data bank).

environmental and social impact assessments and management plans) in coordination with other government authorities, (2) facilitate the resolution of conflicts and possible environmental impacts, and (3) ensure that mine closure plans are properly implemented.

The setup and maintenance of an updated and reliable geological information infrastructure, including regional assessment of oil and mineral resources, is also important for (1) managing the access to resources, (2) reducing land use conflicts, (3) providing a better understanding of the country's oil and mining potential, (4) helping define sector policies, and (5) facilitating bidding processes, particularly in the case of hydrocarbons.

EI regulations normally incorporate internationally recognized technical, environmental, accounting, and auditing standards as well as good industry practice. By adopting these, producing countries can take advantage of the body of existing knowledge and tested procedures, and investors are able to reduce the cost of regulatory compliance.

EI operations generally require close technical and environmental monitoring. Good practice encompasses enforcement of adequate environmental and social regulations as well as the establishment of an independent, competent authority charged with approving and monitoring environmental and social impact assessments and management plans and enforcing compliance.⁵ In accordance with good practice, the separation of roles among the ministry of environment or environmental agency, the environmental unit of the sector ministry and the state-owned company needs to be clearly established to avoid institutional conflicts and poor environmental monitoring. The environment ministry (or the environmental agency) usually retains full ownership of the clearance/permitting process. However, many countries have adopted the “one-stop-shop” approach, in which investors’ point of contact for all matters related to the implementation of petroleum and mining contracts or licenses is the sector ministry, which in turn secures the clearance for the relevant environmental authority. This arrangement can be effective in simplifying compliance monitoring and reducing investors’ cost of doing business.

Compared with oil, mining operations generally have a larger footprint and thus have greater potential to cause adverse social and environmental impacts. As such, they demand closer government supervision. The most successful examples of environmental and social impact mitigation and monitoring involve early consultation and participatory monitoring practices at the local community level. It is good practice to ensure that a consultation process with local communities take place at the very early stages of a project. This helps minimize environmental and social impacts and ensure that the communities receive

⁵Submitting environmental assessments, environmental management plans, and environmental impact assessments is normally a pre-condition for approval of exploration, development, and production activities. The complexity of the requirement depends on the risk associated with these activities. Environmental protection and social mitigation requirements cover the whole life cycle, from prospecting and exploration to post-closure site monitoring after rehabilitation and reclamation are completed.

adequate compensation and benefits based on the project's impact on their livelihood. Communities' understanding of, and support for, the project would in turn reduce conflicts and increase operational security.

Accounting rules and procedures for EI operations and regular audits that meet international standards are also critical, in particular to assess production and export volumes, prices,⁶ and capital and operating costs, as well as to monitor compliance with procurement procedures, local content obligations, and social compensation requirements.

Fiscal audits present several issues. It is not rare to find national oil companies tasked with cost audits of private operators under production sharing contracts. But because these companies are usually investors or even operators, there is an obvious conflict of interest. Since full audits can be onerous on a financial ministry and investors, selected risk-based audits – where priority areas are identified based on risk assessment – may be preferable in some cases.

Given the multidisciplinary nature of the regulatory process, close coordination among different government entities is necessary to avoid regulatory gaps.

Capacity Building

Building and enhancing the technical capacity of the government agencies entrusted with sector regulation, monitoring, and oversight is necessary for the effective and transparent implementation of the government's policies. To this end, on-the-job training programs have been used.

EI licenses and contracts usually contain provisions related to training locally recruited personnel, knowledge transfer, and, in some cases, secondment of government officials. Some countries have adopted special regulations in support of the development of local industries and services, including the transfer of technology.

A problem common to government entities in many developing countries is how to retain qualified civil servants, given the limitations imposed by public compensation and human resource management policies. To overcome these limitations, some countries have created independent government agencies, modeled on the private sector, with different pay scales and human resources policies. Others provide special incentives to highly qualified civil servants. The difficulty many government entities face in retaining qualified staff underscores the importance of continuous training and capacity building as a tool for mitigating the effect of high turnover.

⁶Whereas crude oil and minerals prices are normally set by the international market, in the case of natural gas regulation, price regulation is often necessary to protect end-users and prevent anti-competitive behavior.



LINK 2: REGULATION AND MONITORING OF OPERATIONS

- The responsibilities of the various government entities tasked with EI operations regulation and compliance monitoring should be clearly defined, and their authority and resources should be commensurate with their responsibilities.
- EI regulations should incorporate internationally recognized technical, environmental, accounting, and auditing standards.
- Adequate environmental regulations should be in place, as should a competent authority with the capacity to approve and monitor environmental impact assessments and management plans and enforce compliance.
- The most successful examples of environmental and social impact mitigation and monitoring involve early consultation and participatory monitoring practices at the local community level.
- Regular audits should be carried out to assess production and export volumes, valuation of minerals and hydrocarbons, and the cost of operations.
- The development of a national cadastre and a national data bank is key to improving transparency, certainty of rights, the knowledge of the resource base, and the quality and reliability of government revenue estimates.
- Coordinated procedures among different government entities should be in place to avoid regulatory gaps.
- The technical capacity of the government agencies entrusted with the regulation and monitoring of compliance is critical for the effective, efficient, and sustainable implementation of the government's policies.

- **Institutional responsibilities clearly defined**
- **Continuous capacity building for monitoring and ensuring regulatory compliance**

LINK 3: COLLECTION OF TAXES AND ROYALTIES

EI projects are subject to a wide range of fiscal instruments. These include taxes that apply to all other sectors of the economy and taxes and other payments to the government that are specific to the EI industry. Complex arrangements are often in place, which require adequate assessment and collection capabilities.

Two key steps to ensure the transparent and efficient collection of EI revenue are to:

- Assure the adequate administrative and audit capacity of the relevant institutions*
- Adhere to internationally accepted accounting and reporting standards and procedures*

Fiscal Regimes

The ability of a government to efficiently collect taxes, royalties, duties, and other revenues depends in part on the choice of fiscal regime and fiscal instruments, and in part on the administrative and audit capacity of the relevant institutions. The choice of fiscal regime is critical to achieving contract stability and fair rewards.

Internationally accepted accounting and reporting standards have been developed to deal with key financial accounting and reporting issues unique to the extractive industries. It is common practice for producing countries to refer to such standards in sector laws, contracts, and licenses. Special accounting procedures are also generally annexed to the relevant contract or license. Ideally, accounting procedures are standardized and apply to all projects in a country. Standardization simplifies contract administration and revenue assessment and reduces the possibility of misinterpretation.

Normally, the sale of crude oil or oil products is regulated by transparent procedures—in which there are no conflicts of interest—specified in the sector law and in the relevant contract or license. In the interest of consistency, the same procedures should apply to the national oil company or the government entity responsible for selling crude oil, oil products, or both on behalf of the state. To ensure compliance, it is essential to collect and verify data on the volumes produced, consumed, and exported, and on the prices actually realized by the seller. Regular assessments help ensure that the realized prices of minerals and hydrocarbons sold from each project properly reflect market conditions and

quality differentials at the time of the transaction. Similar considerations apply to the export and local processing of minerals.

For all EI operations, fiscal authorities need to ensure that inter-company transactions are priced in accordance with market conditions for similar goods and services including financing, and do not become a vehicle for transferring taxable income from one affiliate to another. Petroleum contracts and mining agreements usually contain special provisions to regulate inter-company transactions. These include methods for calculating transfer prices for crude oil, natural gas, and minerals, affiliate and shareholders loans, and provision of goods and services between affiliates.

When fiscal or regulated prices (as opposed to market prices) are used to calculate taxable income and royalties or for the sale of crude oil to local refineries, the potential distorting effects need to be carefully evaluated.

Revenue Collection

EI activities are subject to a great variety of fiscal instruments. These include taxes that apply to all other sectors of the economy and taxes that are specific to the petroleum and mining industry. In addition, non-tax forms of rent collection (such as royalties, surface fees, bonuses, and production sharing) are often used; they can be considerable and even exceed tax revenues. When a national oil company or a state-owned mining company exists, the government should receive dividends and other forms of payment as a shareholder of the company. Government revenue may therefore consist of several revenue streams, which may be collected in cash or in kind. Transparency is improved and reconciliation of accounts is facilitated when all payments made by EI companies (including any state-owned company) to the state and the proceeds of taxes collected in kind are traceable and directed to a treasury account, preferably one opened at the central bank. In consideration of the potential impact on the treasury, clear policies are necessary to determine the extent of and modalities for financing the national oil company's operations and for determining the amount of after tax net cash flow that will be retained by the company and the amount that will be distributed to the government as shareholder.

It is essential that a public or private company's provision of services or benefits to the government or its agencies be accounted for in the state budget. Regular audits and reconciliation of the Treasury's accounts and the companies' accounts will further strengthen transparency and public confidence.

The Extractive Industries Transparency Initiative (EITI)

Good practice calls for the government to publish revenues regularly generated by EI activities. At this critical point in the value chain, the Extractive Industries Transparency Initiative (EITI) is particularly relevant. It calls for companies to

disclose all their payments to governments and for the governments to disclose corresponding receipts. A report issued by an independent administrator comprises the reconciliation of company and government disclosures, including the explanation of discrepancies.

The EITI is a tripartite process that involves the government, EI companies, and civil society organizations. Civil society participation in this process helps raise awareness of the contribution of the EI sector to a country's economy as well as accountability of both companies and governments. The EITI includes capacity building activities for civil society to understand the information on revenue flows and provides a forum for civil society's views to be presented in an informed and organized manner.



LINK 4: REVENUE MANAGEMENT AND ALLOCATION

The wealth arising from oil and mining operations must be distributed and managed transparently. Otherwise, it can easily end up funding corrupt practices, promoting social and economic inequalities, and generating intra-state or even inter-state conflicts.

The key steps in transparent and sound revenue management and allocation, the fourth link of the value chain, are to:

- *Prepare appropriate macroeconomic policy responses to mitigate any negative impact from exchange rate appreciation*
- *Make savings decisions to facilitate: (1) public expenditure smoothing in light of revenue volatility and (2) asset accumulation in light of the finite nature of oil, gas, and mineral resources*
- *Allocate public expenditures judiciously, nested within a medium-term expenditure framework and aligned with a country development strategy that ensures adequate scrutiny and appraisal of public investment choices and provides for sound revenue sharing policies*

The Macroeconomic and Fiscal Framework

EI resources and revenue need to be managed at the macro-level in ways that recognize the cyclical nature of commodity prices and the exhaustibility of oil, gas, and mining resources; use realistic price and volume assumptions to guide the forecast of EI revenue; and address the risk of Dutch disease which refers to an exchange rate appreciation that can bring a loss of competitiveness to non-resource sectors. Decisions need to be made on how much revenue should be used for current and capital spending priorities and debt reduction, and how much is to be set aside for revenue stabilization, expenditure smoothing, saving for future generations, or other specific needs. It is important to design revenue saving mechanisms—including institutional arrangements—that foster transparency and sound governance.

Ideally, annual budget allocations should be nested within a medium-term expenditure framework (MTEF)⁷ that reflects the country's poverty reduction

⁷MTEF is a transparent planning and budget formulation process within which public resources are allocated by the government to strategic priorities, usually defined in a Poverty Reduction Strategy Paper (PRSP) in active IDA countries, while ensuring overall fiscal discipline. The process entails two main objectives: the first aims at setting fiscal targets; the second aims at allocating resources to strategic priorities within these targets.

strategy. This is a key but difficult task; often ministries and government agencies do not have adequate technical capabilities to develop and implement a multi-year budget approach. In all cases, it is essential to strengthen the operational links among various laws, strategies, plans, the MTEF, and the budget.

Empowering the parliament and civil society to carry out their respective roles is essential to ensure proper oversight and accountability of the government's macro-economic policy decisions. To this end, good practice calls for development plans and poverty reduction strategies, MTEFs, budgets, and rules for resource revenue saving and utilization to be published. In addition, international development partners can help to provide parliament and civil society with access to training and capacity building programs.

Oil and Mineral Savings Funds

With the lengthy sustained, worldwide commodity price boom from 2004-2008, the level of government revenue and accumulation of "windfall profits" has reached proportions unseen in the past. Very often, revenue cannot be efficiently spent as it is collected. To avoid wasteful expenditure and/or the resource curse, special "oil and mineral funds" have been created in a number of producing countries. The funds may have any or all of the following objectives: (1) to set aside revenue that would be used to smooth expenditure over time, thus countering the effects of price volatility and variations in production levels; (2) to save part of the revenue derived from current exploitation of natural resources for the benefit of future generations; and (3) depending on the magnitude of the accumulation, to insure against extraordinary events (for example, natural disasters). Making a choice among the various uses of EI revenue then depends on a number of factors, both economic and political, which partly explains why the EI saving funds established in different countries have very different characteristics.

Certain common principles distinguish the natural resource funds with best management practices. Although they vary in their institutional arrangements, their characteristics include strong governance, clearly defined goals and transparency, integration with the state budget, and sound asset management strategy. How these funds are managed is critical to their success. Experience has shown that poorly managed EI funds generate social problems and inequalities that may outlast the resource revenue. On the other hand, a well designed and managed EI fund could significantly enhance governance and the benefits for the country.

It is essential that the operation of these funds, or any saving arrangement, be subject to transparent procedures and an adequate governance structure. The savings should be transferred into regular government accounts only in declared amounts as agreed in the annual national budget. Direct spending authority should be avoided. The management of these funds and accounts should be the subject of regular independent audits and performance assessments to verify their status and use. The administrative procedures for the EI saving and stabilization accounts are

usually consolidated into revenue management laws. These procedures include directives for transferring funds to the national budget and accumulating and investing the funds.

Countries expecting small revenue usually aim not for a permanent savings fund, but rather for a temporary but a fairly constant expenditure level for a number of years to kick-start their development. Countries with large EI revenues often start by eliminating high interest debt before implementing policies to invest surplus funds.

Finally, it is important that the budgetary contribution coming from the fund is considered in the same way as any other external financing which is used to cover the deficit of the economy outside the EI sector. In this respect, nothing can replace the need for good fiscal discipline to maintain the level of the non-oil budget deficit that is compatible with the planned withdrawals from the fund⁸ and expected donors' financing.

Revenue Sharing: Assignment and Earmarking

Another significant issue is revenue sharing between the central government and local government, which is generally established in a country's constitution, by law, or both. Fiscal decentralization is challenging given that EI revenue is uncertain, volatile, does not last forever, and typically is concentrated in few producing regions. The use of rule-based, transparent, simple and equitable allocation criteria is thus recommended. Whenever possible, revenue assignments to various levels of government should match their respective expenditure capabilities and responsibilities. Overarching improvements to public expenditure management and institutional capacity at all levels of government—with due attention to the sub-national level—is also recommended. This is particularly important where institutional capacity at the sub-national government level is weak, as expenditure procedures may lack accountability and transparency, and poor expenditure allocation decisions may result in increased current expenditure or investment projects that lack sustainability.

To support the sound implementation of fiscal decentralization, especially where regional and sub-national authorities do not have sufficient capacity, the role of the ministries of economy and finance and civil society organizations is to provide assistance, supervision, and scrutiny at the regional/sub-national level to ensure that this revenue is properly utilized.

Given the sudden changes in commodity prices and the different production profiles of EI operations, it is imperative that mechanisms be established to stabilize budget incomes and facilitate financing of development projects, which often take several years to implement. Earmarking government revenue to specific social sectors on the basis of pre-defined rules, as is done by certain revenue management

⁸Planned withdrawals would depend on the objective of the fund, the expected life of the resource, and the underlying economic assumptions.

laws, is likely to create rigidities in budgetary decisions that are difficult to overcome. It is best to have a development plan with expenditure priorities established for the short and medium term on the basis of long-term macroeconomic and social objectives. Such a plan may be executed over several annual budget cycles.



LINK 5: IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT POLICIES AND PROJECTS

Once the EI contracts and licenses have been awarded, exploration has been completed, construction of production facilities has taken place, operations have been well monitored and regulated, the EI income has been collected, and the revenue has been soundly distributed and managed, governments can expect to have excess capital at their disposal to pursue and implement sustainable development investments.

The key elements of efficient and well designed implementation of sustainable development policies are:

- *Strong public financial management and procurement systems*
- *Clear measures for environmental management and remediation, including EI site rehabilitation and the management of environmental hazards*
- *Public investment decisions that adequately capture potential benefits of EI expansion and favor the country's economic diversification away from EI*
- *Community development and environmental protection programs in regions affected by EI activities*

Investments and Poverty Reduction Strategy

For EI-related as well as for other government revenues, determining appropriate spending choices (for example, social infrastructure versus physical infrastructure) requires broad political consensus. Choices need to take into consideration the nonrenewable and volatile nature of oil and mining revenue, the sustainability and efficiency of expenditure, and the importance of economic diversification.

The actual use of the government revenue in sustainable projects, including capital or recurrent operating and maintenance expenditures, must take place within the framework of the national budget. For new EI producing countries, the arrival of an oil or mining boom can bring great benefits but also great risks. The unexpected revenue enables the removal of budgetary restrictions and may provide funding to investment programs for many years in key sectors of the economy. However, it is a well-known problem that without a national development plan, resource-rich countries are at risk of suffering from the boom and bust cycles driven by volatile commodity prices.⁹

Governments are strongly advised to resist the temptation of extending the state oil or mining companies' responsibilities to undertake infrastructure investments. It is important that development priorities remain the responsibility of the government and suitable checks and balances be in place. To the extent possible, state oil and mining companies are best kept confined to productive and commercial operations where they are more likely to add value. Profits made by national companies should be transferred to the government, the main companies' shareholder, and then within the priorities of the central budget used in programs and projects implemented by the appropriate public or private organization. In addition to the policy choices it is important that the government procurement practices be revised to enhance competition and transparency.

A full discussion of public investment policies, the quality of expenditures by central and local governments, and associated fiscal discipline are beyond the scope of this paper. In general terms, in any country, the management of public finances requires the implementation of systems for budget execution and improvements in public accounting and overall financial reporting. Benchmark indicators exist in the area of public finance management, such as those proposed by the Public Expenditure and Financial Accountability (PEFA) initiative. In any case, a sound public investment management system is needed to help screen proposed investment projects based on factors including their cost-benefit or cost effectiveness and implementation readiness.

The road to sustainable development requires constant surveillance and dedicated political leadership that understands the process and receives adequate information. The establishment of an effective monitoring system that generates feedback into project design and investment choices can support this process.

Sustainable Development in Producing Regions

Projects and infrastructure developed in the EI-producing regions merit special attention and should take into consideration the need to develop non-EI activities to avoid over dependency on the EI and to support the local and regional economy once the EI resources are depleted.

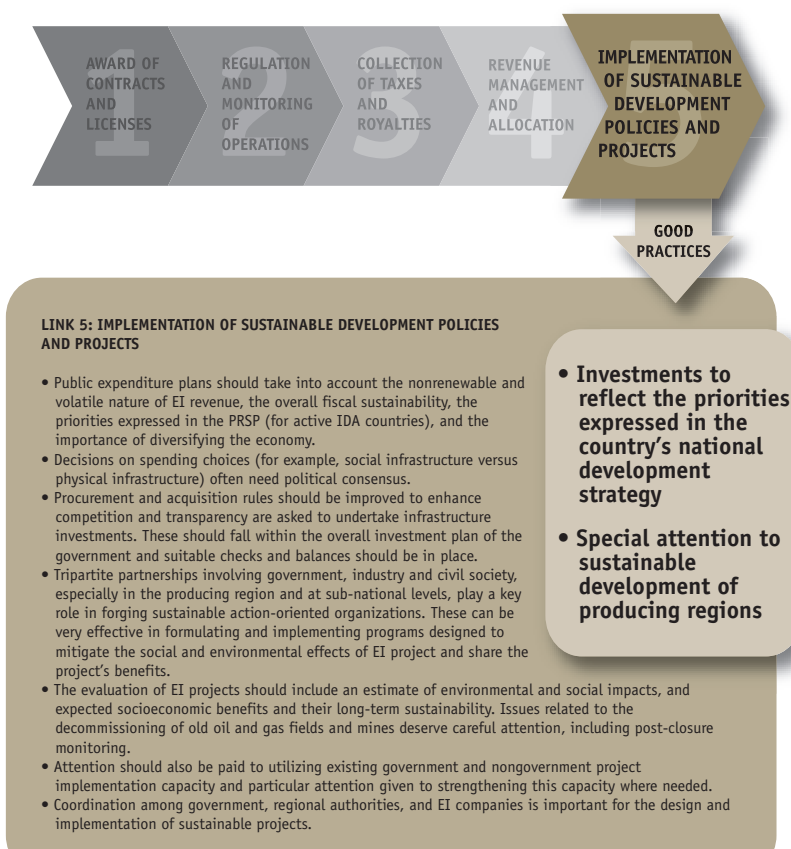
Tripartite (government, industry, and civil society) partnerships, especially in producing regions and at sub-national levels, play a key role in forging sustainable action-oriented organizations. These can be very effective in designing and implementing programs to mitigate the social and environmental impact of EI project and share the project's benefits.

Optimal evaluation of EI projects will include an estimate of their environmental

"Boom and bust cycles have detrimental effects on investment and growth because of heightened uncertainty about demand and the costs associated with the reallocations of factors of production. Also, spending programs that start in times of high oil and mineral prices are likely to become entrenched, and when the prices fall, the government may be obliged to borrow to support them. To mitigate this risk, fiscal policy should aim to smooth expenditure levels over time, taking into account medium to long-term fiscal sustainability, development priorities, and the capacity of the economy to absorb expenditure."

impacts, as well as expected socioeconomic benefits and their long-term sustainability. At the same time, the evaluations will address the need to utilize existing government and nongovernment implementation capacity and strengthen such capacity where needed. Of particular importance is to have in place: (1) a clear closure – decommissioning policy for old oil fields and mines and post-closure monitoring of the needed mitigation measures; and (2) a policy that will take care of the technical, environmental, social and economic issues related with the ending of the life of mines and oil and gas fields; a situation that will impact severely local populations.

Corporate social responsibility projects, implemented by private companies, should be complementary to public investment projects. To this end, coordination among government, regional authorities, and EI companies is important for the design and implementation of sustainable projects. Special attention is needed to make sufficient provisions for the maintenance of infrastructures and adequate preparation for the handover of useful infrastructure and assets from the EI companies to local governments and organizations.



CONCLUSION

Sustainable economic development occurs when it “begins with the end in mind.” Thus oil, gas, and mineral resources are best used to support economic diversification and widespread economic development that would last beyond their depletion. This requires a clear plan and implemented measures to diversify the economy and avoid over dependency on EI revenues.

Sustainable development requires long-term commitment to reforms and a political system that embraces good governance and transparency. Optimal expenditure and saving decisions are made within the context of an overarching multi-year fiscal framework that recognizes the cyclical nature of commodity prices and the exhaustibility of oil, gas, and mining resources. Public expenditure needs to be developed in accordance with, and in support of, the priorities expressed in the country’s poverty reduction and development strategy. That standard is best maintained by ensuring strong scrutiny and appraisal of public investment choices.

Sustainable development at the regional/sub-national level is about rational spending choices that communities and regions make through informed consultation, including with the most vulnerable including women and youth groups, and local participation. Good spending choices rely on good governance reinforced by improvements in public expenditure management, transparent reporting and regular auditing of expenditures, and public accountability.

Governments, state-owned and private EI companies, and civil society each have a role and responsibility to ensure that all efforts are made to devise and implement appropriate and sustainable development policies based on good practice and international standards. By focusing on an integrated approach to improved governance and transparency in the oil, gas, and mining sectors the value chain is a crucial step toward achieving sustainable development.

The following reference principles are designed to preserve the integrity of the value chain:

- Country ownership and strong government commitment to good governance and transparency
- Attention to social and environmental considerations
- Spending plans that reflect development priorities and long-term fiscal sustainability

- Sound governance translated into transparent and competitive laws, regulations, and contracts
- Capacity in line with tasks and institutional arrangements in line with capacity
- Balance between maximizing government capture of rent and attracting risk capital
- Effective accountability mechanisms.

Both public and private sectors, as well as civil society, have a shared responsibility to achieve sustainable development. Focusing on an integrated approach for improved governance and transparency in the oil, gas, and mining sectors along the EI value chain is a crucial step in the right direction.

ANNEX 1: GOVERNANCE AND TRANSPARENCY IN THE EI VALUE CHAIN:

A List of Basic Issues to be Considered

Projects and infrastructure developed in the EI-producing regions merit special attention and should take into consideration the need to develop non-EI activities to avoid over dependency on the EI and to support the local and regional economy once the EI resources are depleted.

1. Award of contracts and licenses

- Is there a clear and appropriate legal, fiscal, contractual, and institutional framework in place?
- Are bidding procedures for awarding licensing rights and contracts transparent and competitive?
- How are public and/or private companies qualified?
- What are the fiscal terms of the contracts?
- Are community interests taken into account and has there been informed consultation with the most vulnerable groups including women and youth representatives?

2. Regulation and monitoring of operations

- Do technical, accounting, and environmental regulations meet international standards?
- Do the government agencies have sufficient capacity to enforce these regulations?
- Are audit procedures in line with international standards?

3. Collection of taxes and royalties

- Do the relevant institutions have adequate administrative and audit capacity?
- Are all government revenues from the EI sector deposited into a treasury account?
- Are accounting rules and reporting standards and procedures clear?
- Is government EI revenue published?

4. Revenue Management and Allocation

- Are the decisions on revenue allocation transparent?
- Are expenditure decisions nested within a sound macro-fiscal framework and in line with a country's development strategy?
- Are there policy measures to address the Dutch disease?
- Is there a credible mechanism to deal with excess revenue in a sustainable manner, such as that for setting it aside in a transparent savings and stabilization fund?
- Is the allocation of EI revenue to sub-national governments consistent with fiscal decentralization principles outlined in the legal framework and transparent, simple, rule-based, and equitable?

5. Implementation of sustainable development policies and projects

- Do public investment decisions adequately capture the potential benefits of EI projects?
- Is there a competitive-based procurement system?
- Is special attention paid to the sustainable development and the environmental protection of producing regions?
- Is an effective monitoring system in place to provide feedback on project design and investment policies?

THE WORLD BANK OIL, GAS, AND MINING POLICY DIVISION

The World Bank Group's role in the oil, gas, and mining sectors focuses on ensuring that its current interventions facilitate the extractive industries' contribution to poverty alleviation and economic growth through the promotion of good governance and sustainable development.

The Oil, Gas, and Mining Policy Division serves as the Bank's global sector management unit on extractive industries and related issues for all the regions of the world. It is part of the Oil, Gas, Mining, and Chemicals Department, a joint World Bank/International Finance Corporation department.

Through loans, technical assistance, policy dialogue, and analytical work, the Division leads a work program with multiple sector activities in more than 70 countries, of which almost half are in Sub-Saharan Africa. More specifically, the Division:

- Advises governments on legal, fiscal, and contractual issues and on institutional arrangements as they relate to natural resources, as well as on good governance practices
- Assists governments in setting up environmental and social safeguards in projects in order to promote the sustainable development of extractive industries
- Helps governments formulate policies that promote private sector growth and foreign direct investments
- Advises governments on how to increase the access of the poor to clean commercial energy and to assess options for protecting the poor from high fuel prices

The Oil, Gas, and Mining Policy Division serves as a global technical advisor that supports sustainable development by building capacity and providing extractive industry sector-related advisory services to resource-rich governments. The Division also carries out an advocacy role through its management of the following global programs:

- The Extractive Industries Transparency Initiative (EITI) multi-donor trust fund, which supports countries in implementing EITI programs
- The Global Gas Flaring Reduction (GGFR) Public-Private Partnership, which brings governments and oil companies together to reduce gas flaring
- The Communities and Small-Scale Mining (CASM) Partnership, which promotes an integrated approach to addressing issues faced by artisanal and small-scale miners
- The Gender and Extractive Industries Program, which addresses gender issues in extractive industries
- The Petroleum Governance Initiative (PGI), which promotes good governance



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