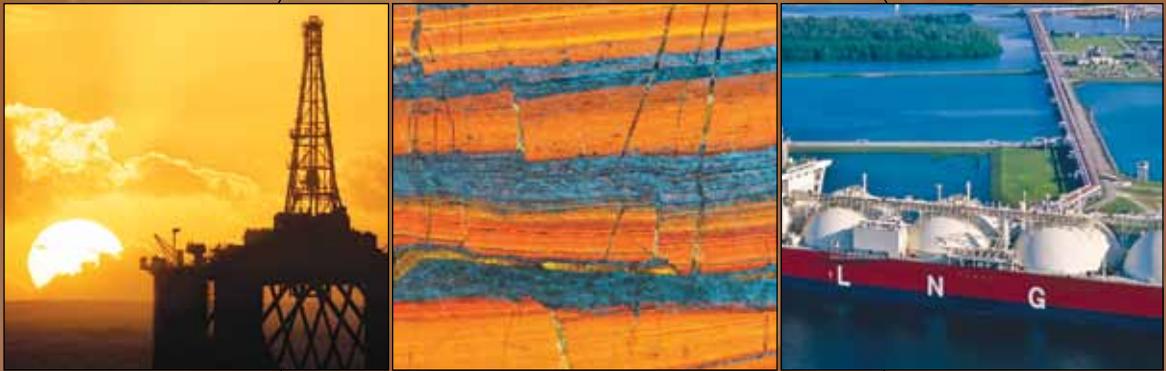


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**Environmental Governance in
Oil-Producing
Developing Countries**



Findings from a
Survey of
32 Countries

*Managed by
Eleodoro Mayorga Alba*



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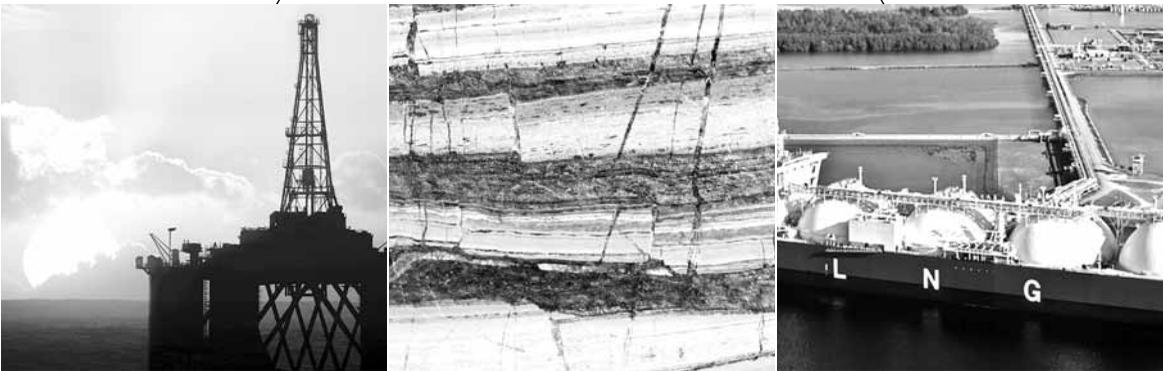
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Cover photos: Oil rig, hematite-banded ironstone, LNG tanker

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Disclaimer: The information presented in this document has been compiled and interpreted exclusively for the purposes of the World Bank and the Norwegian Agency for Development Cooperation by Integrated Environments (2006) Ltd. and D'Appolonia SpA in accordance with contractually specified terms of reference. The consultants have exercised reasonable care, skill, and due diligence in assessing the data and information compiled and reviewed during the preparation of this report, but make no specific warranties or guarantees regarding its completeness or accuracy. The contents of this report are based on the results of surveys, interviews, and publicly accessible information available at the time of survey completion, all of which are limited by the circumstances and conditions stated herein. The opinions, recommendations, and guidance presented here are based on the data and information reviewed and the professional expertise of the consultant team.

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Abbreviations

EIA	environmental impact assessment
PGI	Petroleum Governance Initiative

Executive Summary

The Petroleum Governance Initiative (PGI) is a joint effort of the government of Norway and the World Bank to provide assistance to oil-producing nations aimed at effective sustainable management of oil and gas development. The initiative covers three general themes, or pillars, that address issues of transparency and economic responsibility, environmental sustainability, and responsible community development.

This paper focuses on the results of a survey of 27 oil-producing developing countries to compare environmental and social governance against a benchmark standard representing a compendium of best management practices for minimizing environmental impacts of oil and gas development.

For the majority of countries surveyed, a sufficiently appropriate, but largely theoretical, environmental policy and legal framework is in place. However, the effectiveness of this framework tends to be compromised by the lack of a sufficiently organized administrative structure that enables efficient regulatory compliance and enforcement. Additionally, the human and financial resources needed for effective environmental governance are generally lacking.

Most countries have some form of environmental impact assessment (EIA) process that has been incorporated within their legal and regulatory framework. However, much of the emphasis of the EIA process appears to be directed toward approval of oil and gas projects rather than reflecting a life-cycle management approach to environmental and social issues. Evidence of this effect is that most countries make use of insufficient—and sometimes totally absent—control and enforcement mechanisms during the post-EIA approval phase.

Regarding public consultation and involvement, governments may consult about oil and gas activities, but they disclose little to the public and affected stakeholders. Consultation is more about informing stakeholders about proposed oil and gas projects than involving them in project-related decisions. Additionally, there are significant barriers to the disclosure of information about oil and gas projects and the natural and social environments in which they occur. Most governments lack a

commitment to establish and implement a centralized information system, whether electronic or otherwise.

In less than half of the countries surveyed, governments pay little or no attention to issues regarding liability and decommissioning of oil and gas facilities. Efforts to involve the private sector in applying internationally accepted good environmental practices to minimize the impacts of oil and gas development could also be improved.

Recommendations arising from this project extend beyond increasing capacity through training to incorporating several associated innovative approaches as follows:

- Undertake a gap analysis in specific countries as a further refinement of the survey.
- Undertake a gap analysis at a regional level to identify the most appropriate mechanism for institutional strengthening of environmental governance in oil-producing countries of a specific region.
- Improve country capacity in EIA monitoring and follow-up through training, workshops, and case studies.
- Promote institutional capacity development in EIA monitoring and follow-up, including the use of qualified consultants in EIA procedures.
- Improve the consultation and outreach process to build trust among industry, governments, and local communities through the creation/implementation of regional livelihood development programs.
- Support the development of regional communication systems for disseminating environmental and social information relating to proposed oil and gas projects.
- Support an approach for managing environmental liabilities arising from oil and gas development, such as an overarching regulatory and accounting framework; determination of liability costs and their assignment; and an understanding of decommissioning, closure, and abandonment procedures.
- Deliver training programs on key topics identified in the survey.

Introduction

Many experts inside the petroleum industry believe that the world is not running out of oil, but it is clear that future sources will be different from the reserves that are produced today. According to the reference scenario of the International Energy Agency, world oil demand was—before the current economic downturn—expected to increase from 84 million barrels per day in 2007 to 106 million barrels per day in 2030 (IEA 2008). Most of that production increase is predicted to come from non–Organisation for Economic Co-operation and Development (OECD) countries. Some 64 million barrels per day of additional oil supply, the equivalent of six times Saudi Arabia’s current daily production, will be needed to cover energy demand increase and the current production decline (IEA 2008).

Even if this projection does not materialize, oil and gas producers will be forced to expand exploration and production activities into more remote, frontier, and often more fragile and technically challenging environments, including offshore deepwater areas. Not only will these activities be costly, they could also have significant environmental and social impacts if not managed properly. It is essential that governments of oil-producing nations enhance their capacity to protect the natural environment and ensure that sustainable benefits of oil and gas development accrue for their citizens today and into the future.

The Petroleum Governance Initiative (PGI), a joint effort of the government of Norway and the World Bank, attempts to address this challenge by providing assistance to oil-producing countries to facilitate the effective environmental and social management of oil and gas development. The PGI is especially intended to provide support in the implementation of appropriate petroleum governance policies and programs covering resource and revenue management; linkages to the effective management of environmental, social, and community issues arising from oil and gas development; and fostering mechanisms for ensuring community development and long-term economic benefits in oil-producing regions.

The PGI encompasses three general themes, or pillars, that address issues of transparency and economic responsibility, environmental sustainability and responsible community development. Of particular interest here is the second pillar, environmental sustainability; the PGI is currently involved in four main activities surrounding this theme:

- Assessing environmental governance and management in oil-producing countries—the topic of this paper
- Conducting a strategic environmental assessment of oil and gas activity in Mauritania
- Conducting workshops and preparing a toolkit on decommissioning and abandonment
- Providing in-country assistance on environmental management to a limited number of countries

This paper presents the results of a survey undertaken by the PGI to measure the environmental governance of oil-producing nations against a benchmark standard representing a compendium of good management practices for minimizing impacts of oil and gas development. The objective is to identify areas where the World Bank can provide assistance to improve environmental governance and management systems, particularly in those developing countries whose oil and gas industry is rapidly emerging as a major component of gross domestic product. Detecting governance gaps—and, more importantly, facilitating the rapid implementation of corrective measures—is an important challenge for the World Bank in its efforts to preserve natural habitats and the culture of indigenous peoples.

Chapter 2

PGI Survey

In order to survey oil-producing, developing countries efficiently and cost-effectively—and to reach a broad audience of respondents representing diverse opinions from governments, industry, and civil society—the PGI developed a Web-based tool via SurveyMonkey (www.surveymonkey.com). The survey was made available in English, French, Portuguese, Russian, and Spanish.

Questions were presented in a multiple-choice-response format on 10 themes capturing the key aspects of good environmental governance of the oil and gas industry, which are listed later in this chapter. For each question, a benchmark representing the “ideal” governance response was developed from proven environmental practice in five countries: Brazil, Canada, Italy, Malaysia, and Norway.¹ Government, industry, and civil society representatives were invited to respond to the survey.

A single version of the survey received from several government, industry, and civil society representatives was consolidated for each country. The consolidated version represents the professional assessment of the consultant team concerning the opinions of the survey respondents. Given the limited number of surveys for a given country, the results may not be statistically significant for each individual country, but taken as a whole, they represent a valid research effort to identify the most serious gaps of environmental governance systems in oil-producing developing countries.

The consultant team assigned to the response to each question a score relative to the benchmark response as follows:

- 0 – Does not meet the benchmark
- 1 – Partially meets the benchmark
- 2 – Fully meets or exceeds the benchmark

¹These five countries were selected as benchmark nations because they were found to be oil producers with internationally recognized good environmental practices in their region. Thus, Norway was selected because its oil and gas activities represent good environmental practices for offshore production in the North Sea.

Scores were then tallied and compiled in Microsoft Excel for each country on each survey theme. The score of the benchmark countries for all questions on a given theme was considered equal to 100 percent. Consequently, the score obtained by a country on a survey theme was calculated as a percentage using the consolidated survey prepared for this country. A summary of the percentage scores obtained by the total sample on key questions and themes are presented in the graphs in this paper.

Selected Countries

A total of 29 developing countries were selected for inclusion in the survey. Of this group, results for 27 countries were compiled, as the responses received for two countries were considered insufficient. Table 2.1 presents the regional breakdown, by World Bank classification, of the surveyed countries; note that the East Asia and Pacific and Europe and Central Asia regions are here combined, as only one country (Azerbaijan) falls in the latter region.

Criteria considered in selecting the surveyed countries included the following:

- Oil producer or potential oil producer
- Availability of in-country contacts within the Norwegian Agency for Development Cooperation and the World Bank
- Likelihood of survey completion

Table 2.1 Surveyed Countries

Latin America and the Caribbean	Middle East and North Africa	Sub-Saharan Africa	East Asia and Pacific/Europe and Central Asia
Argentina	Algeria	Angola	Afghanistan
Colombia	Egypt, Arab Rep.	Cameroon	Azerbaijan
Ecuador	Syrian Arab Republic	Congo, Rep.	Cambodia
Mexico	Yemen, Rep.	Gabon	China
Peru		Mauritania	Indonesia
Trinidad and Tobago		Nigeria	Kazakhstan
Venezuela, R.B. de		São Tomé and Príncipe	Papua New Guinea
			Philippines
			Thailand

Source: Authors.

Key Themes

The survey was constructed around 10 themes considered to represent essential elements of good governance for managing the environmental and social impacts of oil and gas development. The themes were derived from consideration of good governance principles and environmental management practices applicable to the oil and gas industry. In the context of this report, good environmental practice for the oil and gas industry is defined as the application of the most appropriate combination of management measures for minimizing the impacts of oil and gas development. The 10 themes considered are as follows:

- Legal, regulatory, and contractual framework
- Institutional structure and governance capacity
- Public consultation
- Environmental assessment, particularly practices beyond the approval stage
- Environmental monitoring and follow-up
- Regulatory enforcement
- Barriers to information collection, disclosure, and dissemination
- Use of best environmental practices and technologies
- Decommissioning, abandonment, and future liability costs
- Risk avoidance and management

Questions were also included to gauge countries' governance of their oil and gas industry with regard to climate change, specifically country participation in the World Bank's Global Gas Flaring Reduction Initiative and the reporting and reduction of greenhouse gas emissions. However, too few responses were received to allow for meaningful analysis and interpretation at this time; the topic should undoubtedly be revisited in the future.

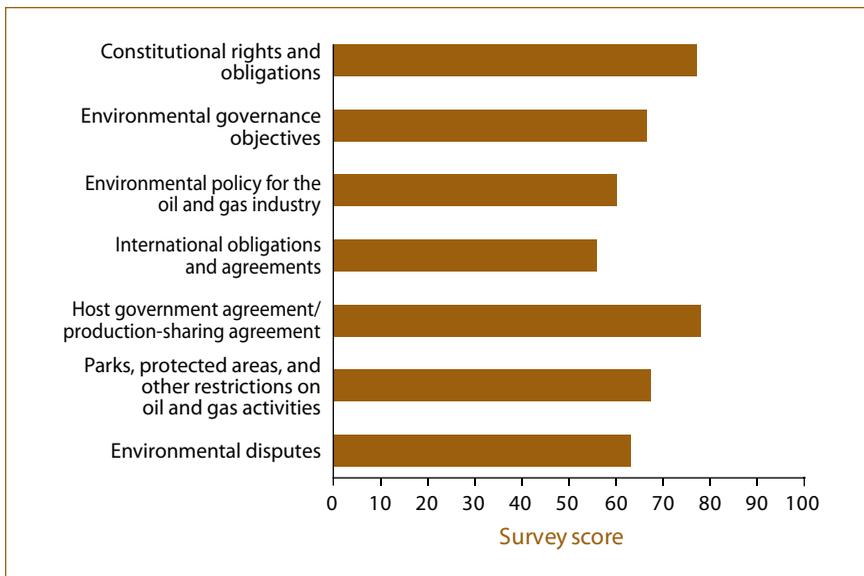
Findings

To simplify the presentation of the results and due to the overlapping nature of some of the themes, the survey findings are here consolidated into the following major topics: (1) legal, regulatory, and contractual framework; (2) institutional strengthening of good governance; (3) public consultation and access to information; (4) environmental assessment process; (5) decommissioning and liability; and (6) private sector involvement in good environmental practice

Legal, Regulatory, and Contractual Framework

The results of the survey show that in the majority of countries surveyed, a sufficiently appropriate, but largely theoretical, environmental policy and legal framework is in place for managing impacts of the oil and gas industry (figure 3.1). In most cases, the regulatory system principles already adopted in more developed countries are largely transposed onto

Figure 3.1 Legal, Regulatory, and Contractual Framework



- **Constitutional rights and obligations.** There are constitutional rights and obligations that address the ownership of natural resources, protect human health, protect and sustain the environment, and address the status of indigenous people.
- **Environmental governance objectives.** The legal system relies primarily on penalties or incentives to achieve its environmental governance objectives.
- **Environmental policy for the oil and gas industry.** (1) There is a specific law (or set of laws) that establishes policy for the development of the oil and gas industry, and there are regulations duly passed that provide direction to implement the policy. (2) There is an environmental law(s) that sets policy to address environmental issues arising from oil and gas development, and there are a full set of regulations duly passed that provide direction for policy implementation. (3) In the context of oil and gas industry development, there are laws that establish policy in regard to the following: water use; emissions into air, onto land, or into water; effluents into air, onto land, or into water; waste management (including hazardous waste management); decommissioning and abandonment; pollution; and noise. There are regulations duly passed that provide direction to the implementation of their respective policies and have quantitative standards.
- **International obligations and agreements.** (1) The national government has incorporated international law rights and obligations within its legal system that address environmental issues arising from oil and gas industry development. (2) The government sets out policy to address potential environmental impacts that affect neighboring countries through notification or consultation. (3) For multinational oil and gas companies, the company is required to adhere to the corporate policies established as a result of the jurisdictional requirements followed in its country of origin.
- **Host government agreement/production-sharing agreement.** (1) There is a specific host government agreement that puts forward the contractual rights and obligations of the host government arising from an oil and gas development and also directly addresses the host government's related environmental rights and obligations. (2) There is a specific production-sharing agreement that puts forward the contractual rights and obligations of the proponent(s) of an oil and gas development which also addresses the proponents related environmental rights and obligations.
- **Parks, protected areas, and other restrictions on oil and gas activities.** Oil and gas development is not allowed in parks and protected areas. There are clearly identified restrictions that apply prior to the bidding process.
- **Environmental disputes.** (1) There is meaningful access to a quasi-judicial board or commission and access to a national court system for all stakeholders to a functioning judiciary for independent, ultimate adjudication of disputes and determination of remedies arising from the environmental implications of oil and gas industry development. (2) There is a law that identifies and establishes appeals process or public hearings for controversial and/or complex projects. (3) The public has access to the court and legal system to seek remedies for environmental noncompliance.

Source: Authors.

the national legislation of emerging oil producers. In short, many oil-producing countries have established, on paper, a legal and regulatory framework consistent with those in place for the benchmark countries.

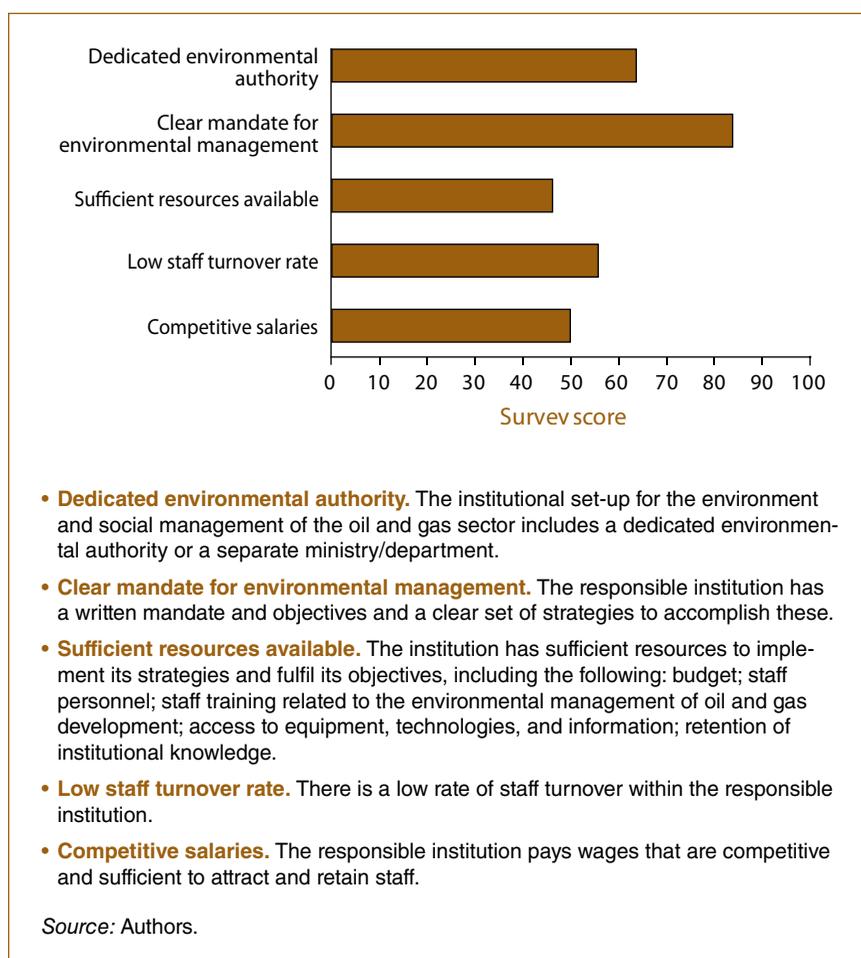
Institutionally, most countries have a dedicated institution in place for managing the environmental and social impacts of the oil and gas industry; this is either a ministry of environment, or a similar institution.

Institutional Strengthening of Good Governance

The effectiveness of a regulatory framework is compromised by the lack of a sufficiently organized administrative structure that enables efficient regulatory compliance and enforcement. Another factor compromising regulatory effectiveness is simply the lack of the human and financial resources needed for effective environmental governance. The survey found that in 89 percent of the countries responding, the responsible institutions for environmental management have little (74 percent) or insufficient (15 percent) resources (budget, staff, training, technology, information systems, and so forth) to effectively implement their strategies and fulfill their regulatory mandate (figure 3.2).

These findings reveal that the regulatory systems in place are somewhat of an empty box. Although the governance structure and

Figure 3.2 Institutional Capacity



frameworks exist, the implementation of governance in an efficient and effective environmental management system for oil and gas activities is not fully in place. Therefore, efforts are needed to strengthen the administrative and technical capabilities of local governments to improve the environmental governance of the oil and gas industry.

Public Consultation and Access to Information

The survey found that while governments may consult about oil and gas activities, they often disclose little to the public and affected stakeholders. Consultation is more about informing stakeholders about proposed oil and gas projects than involving them in decisions regarding oil and gas development (figures 3.3 and 3.4).

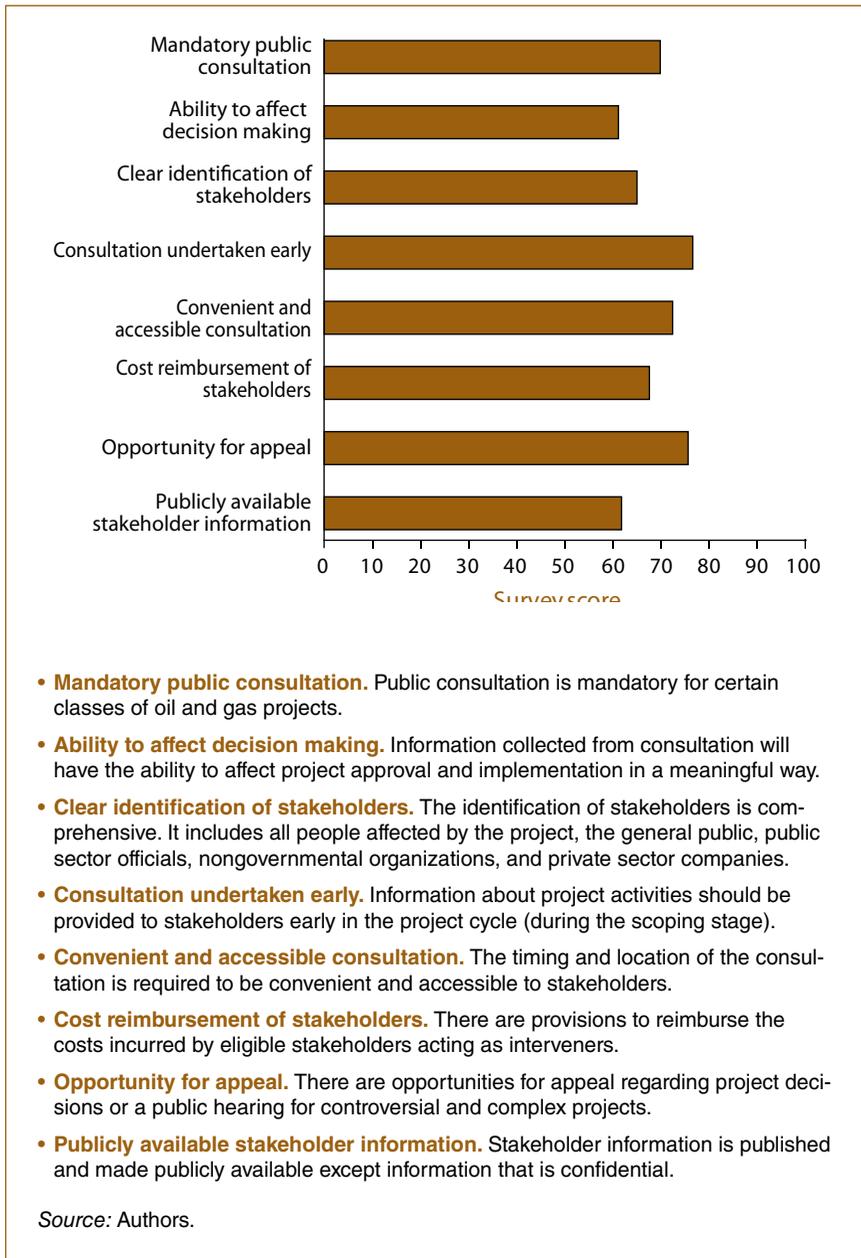
The impact of the public consultation process on the ability to affect decisions regarding oil and gas projects is not clear. This lack of clarity can have a significant effect on the confidence of local stakeholders and communities that their specific concerns about oil and gas projects will be heard and considered by both regulators and proponents.

Governments appear to recognize the need to consult early on in the oil and gas development phase. Most governments hold consultation activities in the directly affected project area to maximize local involvement. However, they give little consideration to covering the costs of participation in the consultation process, or to requesting contributions from industry to reimburse stakeholder costs.

In many cases, consultation with local communities focuses more on the amount to be negotiated as compensation than on establishing communication links for managing environmental impacts throughout the project cycle.

While governments recognize the need to consider diversity and pay attention to language and cultural differences in the public consultation process, improvement is needed in involving indigenous peoples in consultations on oil and gas projects. Less than half the countries surveyed have ratified International Labour Convention 169 of the International Labour Organization and its provisions regarding indigenous peoples and extractive industry projects. As a result, few governments have specific laws and regulations in place as to how involvement of indigenous peoples in the review and approval of oil and gas projects would actually work. This is a matter of some concern, in that many oil and gas projects in developing nations are situated in frontier areas within the traditional lands of indigenous peoples. This lack has relevance for the recently

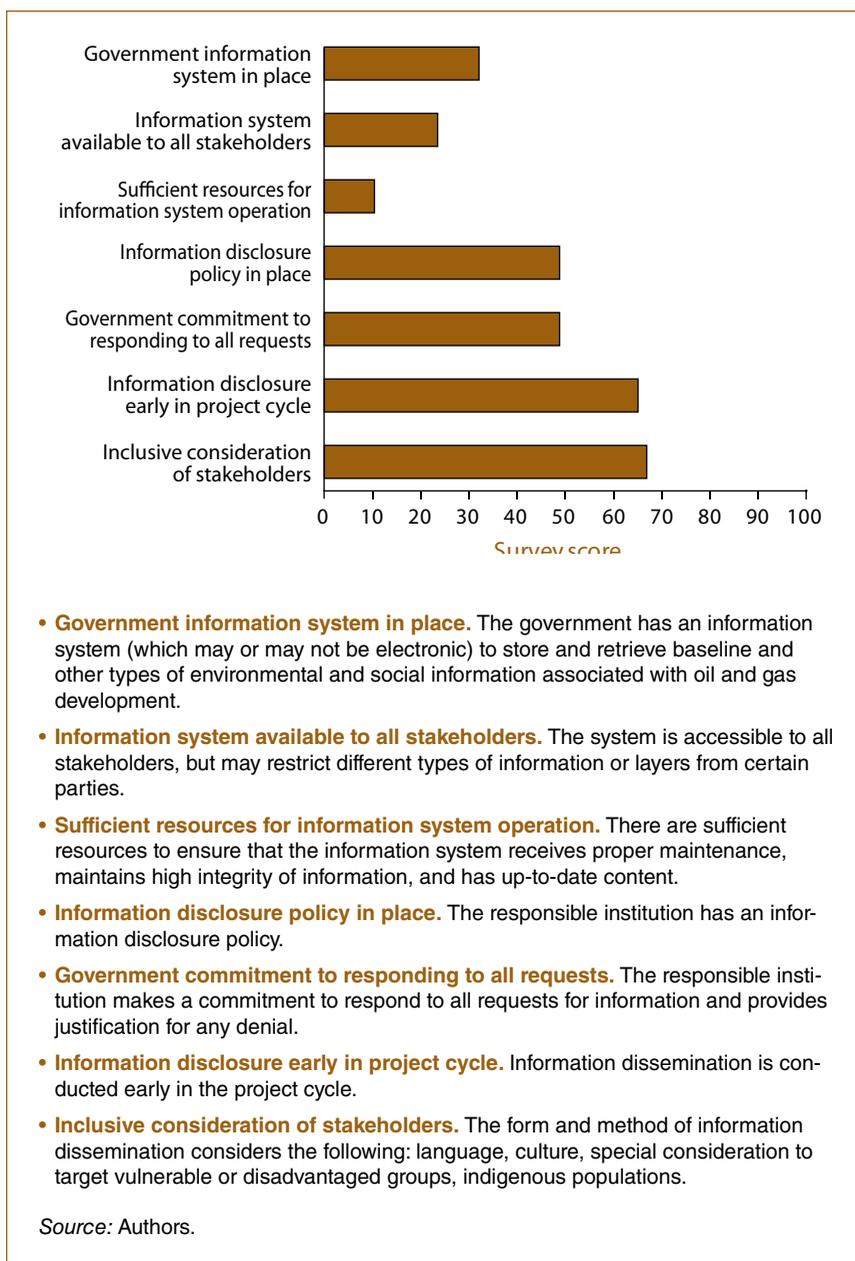
Figure 3.3 Public Consultation and Disclosure



signed UN Declaration on the Rights of Indigenous Peoples that was adopted by 144 states in September 2007.

Another important area of concern pertains to improving the dissemination of information about the consultation process. Survey results

Figure 3.4 Environmental Information Systems



indicate that little information is communicated back to project stakeholders about the results of the process, or how, if any, it affected the outcome of project approval decisions. Such feedback is a key component in building public confidence that their involvement in the consultation

process can affect project outcomes and help improve project decision making.

Similarly, there are significant barriers to the disclosure of information about oil and gas projects and the natural and social environments in which they occur. Even in today's global information age, there is little access to such information. Survey results show that most governments lack a policy as to how information about oil and gas projects is to be disclosed or disseminated to the public and affected stakeholders. Most governments also lack a clear commitment to responding to project stakeholders in a timely and effective manner, thereby eroding public confidence that their voice is being listened to and heard by government.

Generally, most governments also lack a commitment to establish and implement a centralized information system, whether online or otherwise. This is another area in which significant improvements can be made, providing there is a strong government effort to make information available to the public, rather than spending resources on developing systems to do so.

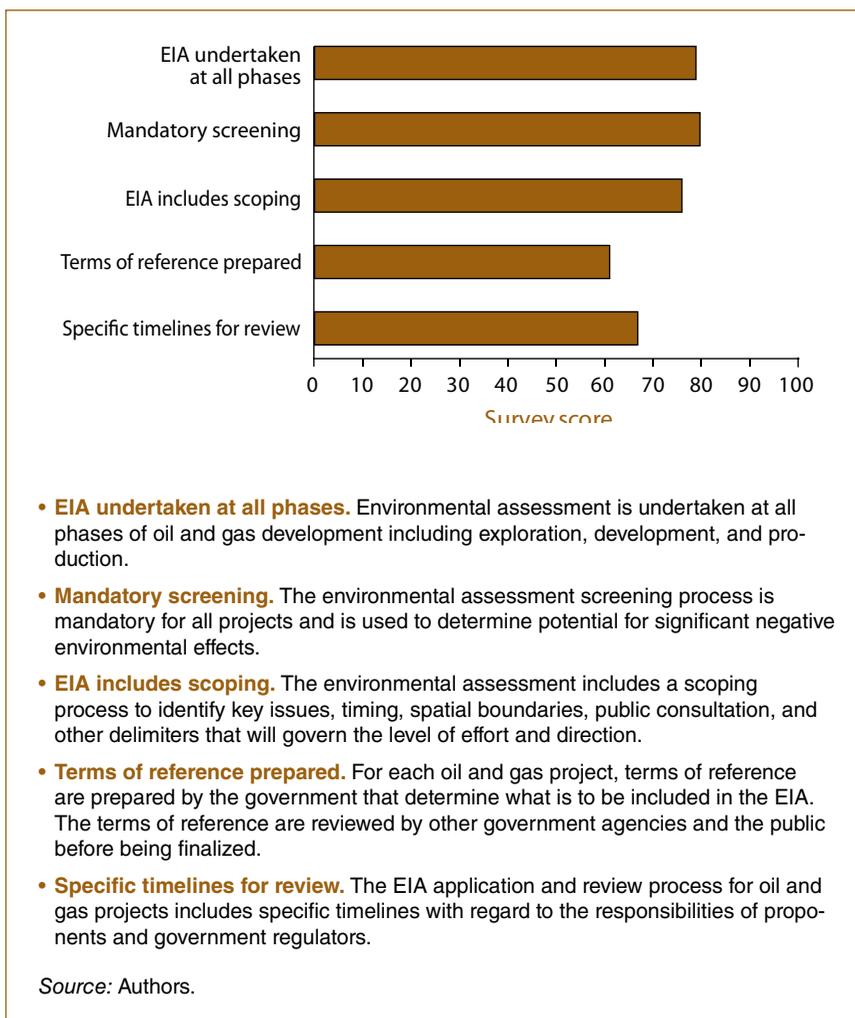
Environmental Assessment Process

The survey found great variability across the responding countries with regard to how the environmental impact assessment (EIA) process for oil and gas activities is implemented. Most countries have some form of EIA process that has been incorporated within their legal and regulatory framework. However, much of the emphasis of the process appears to be directed toward regulatory approval of oil and gas projects rather than toward developing a life-cycle approach for minimizing environmental and social impacts across the entire project life (figures 3.5, 3.6, and 3.7).

In some countries, the full extent of the EIA process, as dictated by best practice, has yet to be implemented. Particularly lacking is systematic and sufficient involvement of the public and local stakeholders, access to baseline environmental and social information in the affected area, complete analysis of project alternatives, and consideration of cumulative effects and regional impacts beyond the project level.

Environmental monitoring and project follow-up are considered part of the EIA regulatory framework enforced in the majority of countries surveyed. Nevertheless, in many cases, actual enforcement practices are inadequate, environmental monitoring is insufficient, and monitoring data are either not disclosed or are not made widely available to the public and affected stakeholders. Moreover, most countries have

Figure 3.5 EIA Approval, Screening, and Scoping



insufficient—sometimes totally absent—control and enforcement mechanisms during the post-EIA approval phase.

While many countries indicate that regulatory enforcement mechanisms and risk management procedures for oil and gas activities are incorporated into the regulatory framework, actual on-the-ground enforcement of EIA approval conditions and regulatory limits is not occurring in a systematic and effective manner.

Figure 3.6 EIA Content and Approach

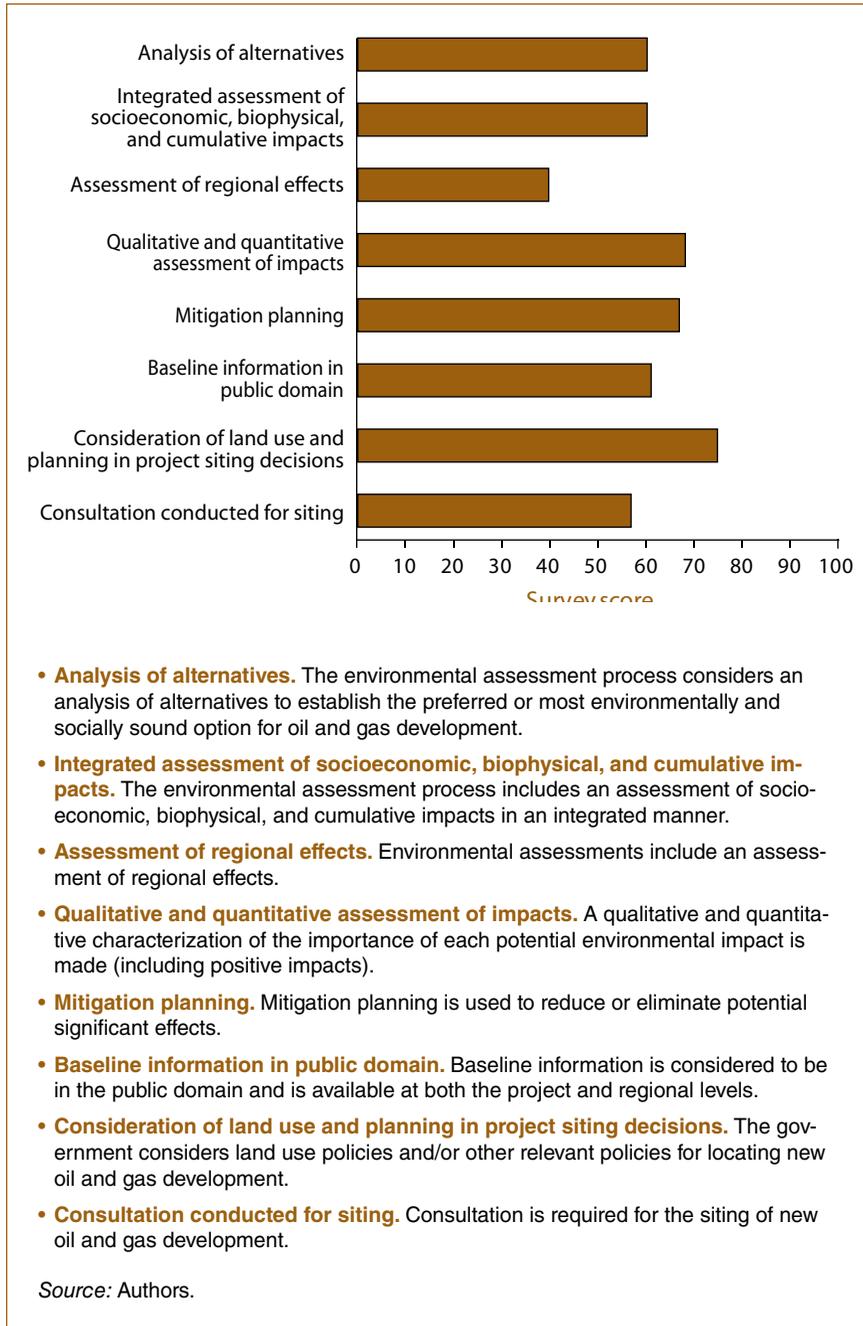
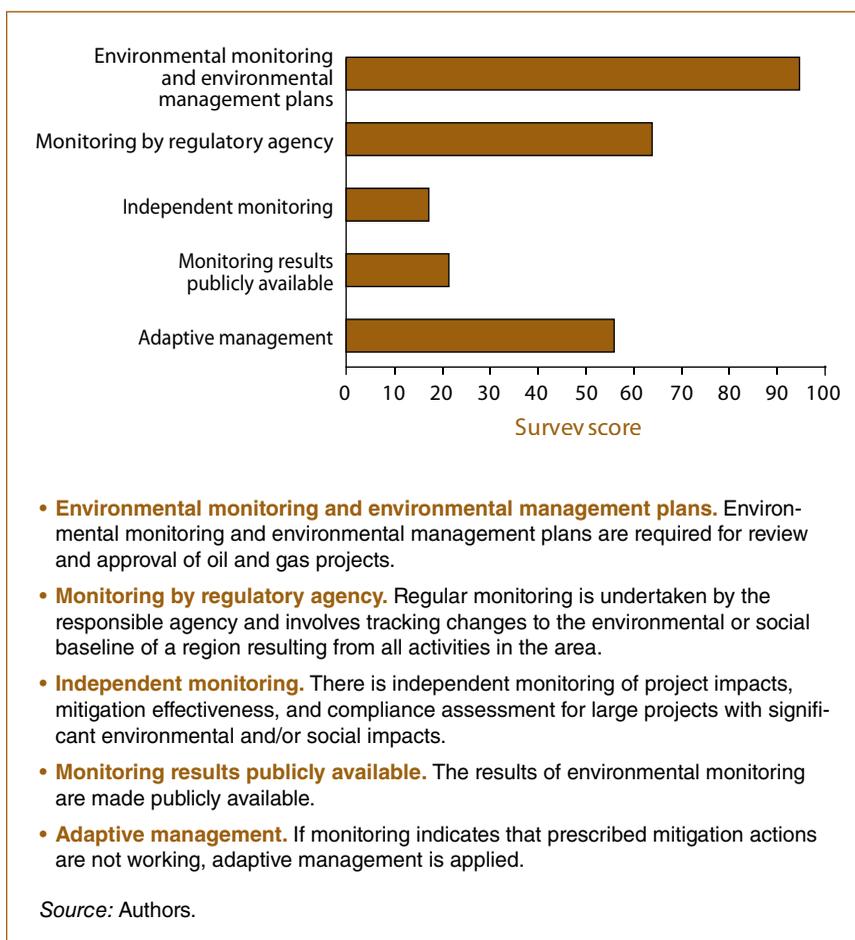


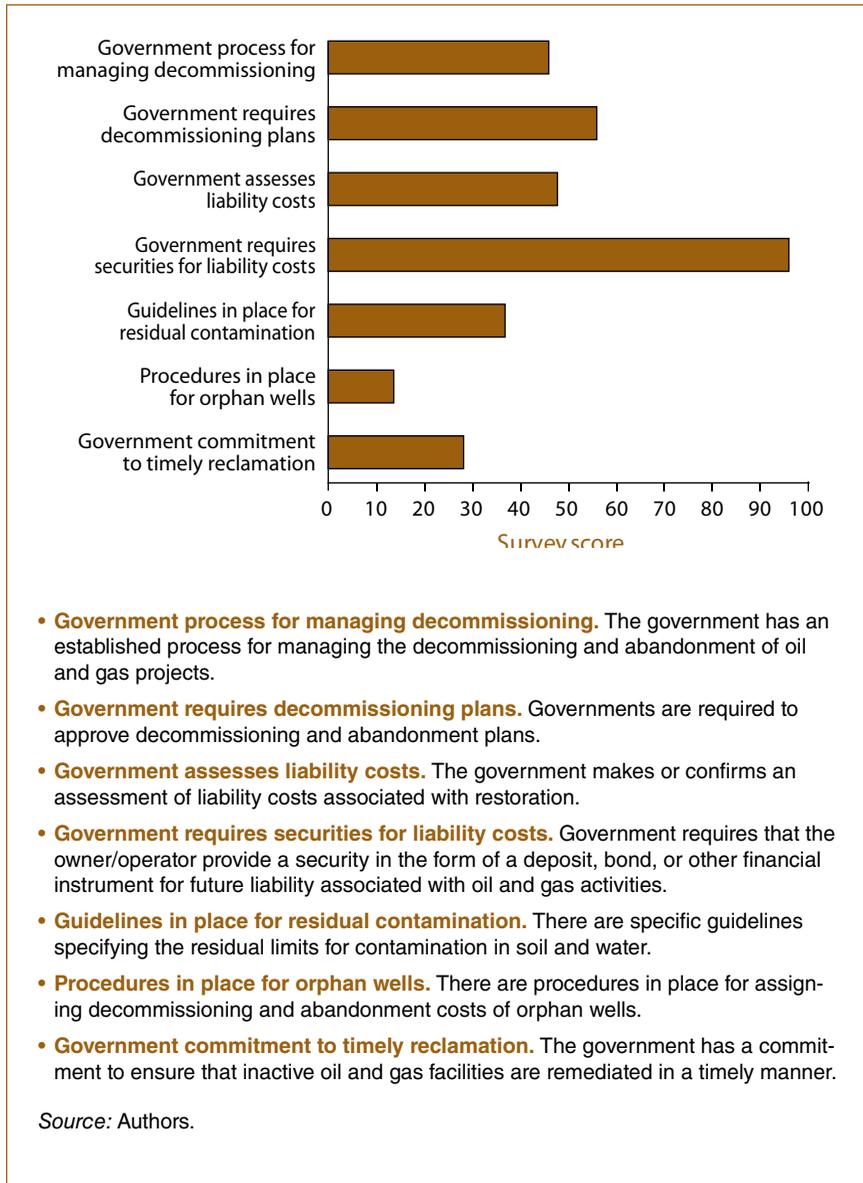
Figure 3.7 Ensuring EIA Monitoring and Follow-up



Decommissioning and Liability

In less than half of the countries surveyed, governments pay little or no attention to liability and the decommissioning of oil and gas facilities. Here again, more effort is directed at granting approval to proceed with oil and gas projects than to considering the long-term impacts and costs of these projects. Governments lack a policy and process for decommissioning and abandonment and do not routinely assess, determine, or assign the future liability costs of decommissioning and abandonment. It is not unusual for governments to devote more attention to economic benefits from short-term gains within their mandate than to consider these costs at a later date in some future administration. Most governments also indicated that they make no commitment to ensuring timely reclamation (figure 3.8).

Figure 3.8 Decommissioning and Liability



Governments lack regulatory guidelines for defining residual contamination limits in soil and water. In the absence of such guidelines, it is impossible to define how contamination should be cleaned up and to determine how these future costs should be assigned.

While governments do include the need for a conservation and reclamation plan as part of the EIA, there is little or no requirement for governments to approve those plans and have proponents implement them.

Most governments lack procedures for dealing with the liabilities resulting from oil and gas facilities that have no owners or that have been abandoned (orphan wells). This is another issue of concern for developing countries as the costs of remediating these liabilities may entail many years of litigation in court instead of being dealt with in a timely manner.

Private Sector Involvement in Good Environmental Practice

The survey found that there is room for improvement in the involvement of the private sector toward the application of internationally accepted best environmental practices to minimize the impacts of oil and gas development. Most governments surveyed lack a mechanism requiring oil and gas companies to adhere to the regulatory framework for managing environmental and social impacts in their country of origin. This is particularly important for those countries that do not have a well-developed national regulatory framework and are under pressure to develop oil and gas resources rapidly as a means of improving economic conditions and local development (figure 3.9).

Governments also are not engaged in a dialogue with industry, which would facilitate the incorporation of changes or updates in best environmental practice into national environmental regulations.

Figure 3.9 Enforcement, Best Practice Standards, and Risk Management



Recommendations

The survey provides a snapshot of how oil-producing developing countries are managing the environmental and social impacts of the oil and gas industry and the governance mechanisms they have in place to do so. The following recommendations are provided to the other multilateral development institutions for consideration and further action in this regard. They concern several innovative initiatives beyond the traditional approach of training to alleviate capacity issues.

1. Undertake a gap analysis in specific countries as a further refinement of the survey.

Rationale: A number of countries have expressed interest in conducting an in-depth diagnostic of a given country's governance performance, with full and complete participation from all stakeholders, rather than with the participation of a reduced number of government officials as occurred in this survey. Governments could use the outputs of this analysis to identify where governance needs to be strengthened. This information may also be useful for economic sectors with major environmental impacts beyond the oil and gas industry.

2. Undertake a gap analysis at a regional level to identify the most appropriate mechanism for institutional strengthening of environmental governance in oil-producing countries of a specific region.

Rationale: It may be useful to conduct a gap analysis at the multi-country level to identify where regional synergies exist and to tie this into strategic regional-level planning, thereby enabling development of a common coherent and consistent environmental and social regulatory system while optimizing resource development. A good candidate region is the Gulf of Guinea where countries with a mature oil and gas industry coexist with emerging oil-producing countries. This gap analysis could be extended into a strategic environmental assessment of oil and gas for the entire West Africa region.

3. Improve country capacity in EIA monitoring and follow-up through training, workshops, and case studies.

Rationale: One of the key findings of the survey—and a common shortcoming in EIA worldwide—is governments' lack of adequate monitoring and follow-up capacity. Most governments are more concerned with approving oil and gas development projects and granting licenses than in adequately managing any subsequent impacts these may have. Training aimed at improving the monitoring and follow-up capacities of government regulatory agencies would be useful in this regard. On-the-job training is preferable, so as to make use of real-world experience and maximize the benefits of capacity building. Such training should be linked to efforts to strengthen regulatory compliance initiatives, as lack of capacity is strongly correlated with lack of clearly defined regulatory requirements and consistent enforcement practices.

4. Promote institutional capacity development in EIA monitoring and follow-up, including the use of qualified consultants in EIA procedures.

Rationale: The survey findings highlighted the accelerated pace of oil and gas development in many developing countries. In these emerging oil-producing nations, there is significant pressure to develop their oil and gas resources in the quickest way possible; often, this is done without a complete assessment and mitigation of associated social and environmental impacts. Governments are very interested in rapidly approving licenses associated with environmental applications, and there is often great pressure exerted on environmental agencies by other government departments that will reap the immediate financial benefits of oil and gas development, such as energy ministries.

It is unrealistic to expect that any support to build monitoring and follow-up capabilities in environmental regulatory agencies will be able to withstand the pace of development that is occurring. It would thus be useful to support the involvement of external consultants or organizations to help governments develop environmental management capacities beyond project approvals. This could be accomplished by placing experts in these countries over a two- to three-year period during which they could be a catalyst for EIA, strengthen monitoring and follow-up capacities, and provide in-house capacity development. These experts would provide an immediate source of experience, training, capacity building, and regulatory enhancement that could not be achieved through training on a short-term basis.

5. *Improve the consultation and outreach process to build trust among industry, governments, and local communities through the creation/implementation of regional livelihood development programs.*

Rationale: The survey found that although public consultation processes are part of the regulatory framework in many oil-producing countries, their effectiveness in ensuring that all affected stakeholders are actively engaged during the review and approval process is questionable. It is important not only to consider how stakeholders are involved in the decision-making process, but also how assurances can be put in place that they will benefit rather than suffer from oil and gas development. Capacity building in stakeholder engagement is critical and should be tied to implementing livelihood development plans so that the flow of oil and gas revenues will provide community benefits on a long-term and sustainable basis. Creative mechanisms such as shared regional development plans or impact benefit agreements can help ensure that producing regions benefit economically from oil and gas and that social conditions are improved rather than impaired.

6. *Support the development of regional communication systems for disseminating environmental and social information relating to proposed oil and gas projects.*

Rationale: Associated with the public's right to be involved in development decisions that affect livelihoods is the right to be adequately informed about the pending oil and gas development and its environmental, social, and health consequences. Regional communication systems/centers should be developed to provide stakeholders with basic information on oil and gas development, its technical and socio-environmental consequences, mitigation measures, good practices, follow-up and enforcement procedures, and so forth. The systems could also serve as centralized clearinghouses for information on specific project opportunities. These regional information centers could be supported by a variety of funding mechanisms from both private and public sources.

The creation of these centers should encompass the need for managing the entire value chain of oil and gas development—from the award of licenses and contracts, to the collection of revenues and their use in sustainable projects, along with the collection and dissemination of environmental and social data. The creation of these centers could become a condition for funding large projects.

The objectives for the proposed environmental information centers would be as follows:

- Produce reliable, relevant, secure, and timely public information about oil and gas activities
- Disclose information in the public domain about the outcomes of the bidding process for oil and gas leases
- Maximize transparency for all revenue flows and the social and environmental data associated with proposed oil and gas projects
- Provide all documentation and information on the regulatory process for environmental permitting, approval, follow-up, and monitoring

The types of information and data contained in these systems/centers could include the following:

- Pertinent laws, regulations, approvals, and regulatory standards for oil and gas projects
- Baseline environmental and social information in areas of oil and gas development
- Project development plans and associated environmental and social impact assessment studies and reports
- Environmental monitoring and follow-up studies and reports
- Strategic environmental assessments, regional environmental assessments, and cumulative effects assessments
- All social and environmental assessment studies and their monitoring and follow-up information
- Financial statements and audits of production data and revenue flows
- Information on environmental liabilities and decommissioning of oil and gas projects
- Information on new oil and gas projects under consideration

7. *Support an approach for managing environmental liabilities arising from oil and gas development, such as an overarching regulatory and accounting framework; determination of liability costs and their assignment; and an understanding of decommissioning, closure, and abandonment procedures.*

Rationale: The liabilities of oil and gas development and the eventual abandonment of oil and gas facilities are greatly overlooked in many oil-producing nations. More emphasis is placed on promoting the financial benefits of oil and gas development today than on considering the financial consequences and possible detriments of a later date when closure is

imminent. Another module of the PGI is addressing this issue, producing a toolkit manual on decommissioning and abandonment of oil and gas and mining projects.

8. *Deliver training programs on key topics identified by the survey.*

Rationale: Oil-producing developing countries need to put in place training programs aimed at building capacity in environmental management of oil and gas development. Training in the following areas is suggested:

- Public consultation and the development of tripartite dialogues involving government, industry, and civil society representatives
- Decommissioning, abandonment, and environmental liability
- Environmental monitoring, follow-up, and audits
- Incorporation of best environmental practices
- Development of environmental information systems

Training could include on-site workshops and seminars, production of manuals and training aids, and regional workshops. Where possible, practical case studies should be featured to illustrate real-world situations. A standard set of materials could be provided and made available in English and other appropriate languages.

Survey of Institutional Capacity

1.0 Legal, Regulatory, and Contractual Framework

1.1 Legal, Regulatory, and Contractual Framework Overview

1. The national legal system is primarily based on common law or civil law.

1.2 Constitutional Rights and Obligations

2. There are constitutional rights and obligations that
 - address the ownership of natural resources,
 - protect human health,
 - protect and sustain the environment,
 - address the status of indigenous people.

1.3 Environmental Governance Objectives

3. The legal system relies primarily on penalties or incentives to achieve its environmental governance objectives.

1.4 Environmental Policy for the Oil and Gas Industry

4. There is a specific law (or set of laws) that establishes policy for the development of the oil and gas industry, and there are regulations duly passed that provide direction to implement the policy.
5. There is an environmental law(s) that sets policy to address environmental issues arising from oil and gas development, and there is a full set of regulations duly passed that provide direction for policy implementation.
6. In the context of oil and gas industry development, there are laws that establish policy in regard to the following:
 - Water use
 - Emissions into air, onto land, or into water
 - Effluents into air, onto land, or into water
 - Waste management (including hazardous waste management)
 - Decommissioning and abandonment
 - Pollution
 - Noise

There are regulations duly passed that provide direction to the implementation of their respective policies and have quantitative standards.

1.5 International Obligations and Agreements

7. The national government has incorporated international law rights and obligations within its legal system that address environmental issues arising from oil and gas industry development.

8. The government sets out policy to address potential environmental impacts that affect neighboring countries through notification or consultation.
9. For multinational oil and gas companies, the company is required to adhere to the corporate policies established as a result of the jurisdictional requirements followed in its country of origin.

1.6 Host Government Agreement/Production-Sharing Agreement

11. There is a specific host government agreement that puts forward the contractual rights and obligations of the host government arising from an oil and gas development and also directly addresses the host government's related environmental rights and obligations.
12. There is a specific production-sharing agreement that puts forward the contractual rights and obligations of the proponent(s) of an oil and gas development which also addresses the proponent's related environmental rights and obligations.

1.7 Parks, Protected Areas, and Other Restrictions on Oil and Gas Activities

13. Oil and gas development is not allowed in parks and protected areas.
14. There are clearly identified restrictions that apply prior to the bidding process.

1.9 Environmental Disputes

18. There is meaningful access to a quasi-judicial board or commission and access to a national court system for all stakeholders to a functioning judiciary for independent, ultimate adjudication of disputes and determination of remedies arising from the environmental implications of oil and gas industry development.
19. There is a law that identifies and establishes the appeals process or public hearings for controversial and/or complex projects.
20. The public has access to the court and legal system to seek remedies for environmental noncompliance.

2.0 Strengthening Institutions and Their Governance Capacity

2.1 Institutional Structure

22. The institutional set-up for the environment and social management of the oil and gas sector includes a dedicated environmental authority or a separate ministry/department.
23. The responsible institution has a written mandate and objectives and a clear set of strategies to accomplish these.

2.2 Institutional Capacity

24. The institution has sufficient resources to implement its strategies and fulfill its objectives, including the following:
 - Budget
 - Staff personnel
 - Staff training related to the environmental management of oil and gas development
 - Access to equipment, technologies, and information
 - Retention of institutional knowledge
25. There is a low rate of staff turnover within the responsible institution.
26. The responsible institution pays wages that are competitive and sufficient to attract and retain staff.

3.0 Expanding Public Consultation and Disclosure

3.1 Public Consultation and Involvement

67. Public consultation is mandatory for certain classes of oil and gas projects.
68. The government and the proponent perform public consultation in the context and manner appropriate to their mandate.
69. Information collected from consultation will have the ability to affect the project approval and implementation in a meaningful way.
70. The identification of stakeholders is comprehensive. It includes all people affected by the project, the general public, public sector officials, nongovernmental organizations, and private sector companies.
71. The form and method of consultation considers the following:
 - Language
 - Culture
 - Special consideration to target vulnerable or disadvantaged groups
 - Indigenous populations
72. Information about project activities should be provided to stakeholders early in the project cycle (that is, during the scoping stage).
73. The timing and location of the consultation is required to be convenient and accessible to stakeholders.
74. There are provisions to reimburse the costs incurred by eligible stakeholders acting as interveners.
75. There are opportunities for appeal regarding project decisions or a public hearing for controversial and complex projects.
76. The stakeholder information is published and made publicly available except information that is confidential.

1.8 Consultation/Indigenous People

15. The government has ratified the International Labour Organization Convention 169 concerning indigenous and tribal peoples in independent countries.
16. There is a law(s) that establishes a policy that stakeholders and the general public are to be consulted regarding an oil and gas development, and there are regulations duly passed that provide direction for the implementation of the policy.
17. There is a law(s) that specifically identifies and establishes a policy that addresses the rights and obligations of Indigenous people in relation to the oil and gas industry (or, more generally, resource extraction) development, and there are regulations duly passed that provide direction for policy implementation.

4.0 Improving Environmental Assessment beyond the Approval Stage

4.1 Approval Process, Screening, and Scoping

30. Environmental assessment is undertaken at all phases of oil and gas development including exploration, development, and production.
31. The environmental assessment screening process is mandatory for all projects and is used to determine potential for significant negative environmental effects.

32. The environmental assessment includes a scoping process to identify key issues, timing, spatial boundaries, public consultation, and other delimiters that will govern the level of effort and direction.
33. For each oil and gas project, terms of reference are prepared by the government which determines what is to be included in the EIA. The terms of reference are reviewed by other agencies of the government and the public before being finalized.
34. The EIA application and review process for oil and gas projects includes specific timelines in regard to the responsibilities of proponents and government regulators.

4.2 EIA Content and Approach

35. The environmental assessment process considers an analysis of alternatives to establish the preferred or most environmentally and socially sound option for oil and gas development.
36. The environmental assessment process includes an assessment of socioeconomic, biophysical, and cumulative impacts in an integrated manner.
37. Environmental assessments of oil and gas projects include the following:
 - Environmental baseline information of preproject conditions
 - Qualitative and quantitative information related to water, air, soils, vegetation, and wildlife
 - Qualitative and quantitative estimations of environmental effects
 - Mitigation measures the proponent intends to adopt to reduce or avoid impacts
 - Landscape and cultural heritage
 - Public health
 - Monitoring plan
 - Project effects on protected areas
38. Environmental assessments include an assessment of regional effects.
39. A qualitative and quantitative characterization of the importance of each potential environmental impact is made (including positive impacts).
40. Mitigation planning is used to reduce or eliminate potential significant effects.
41. Baseline information is considered to be in the public domain and is available at both the project and regional levels.

4.3 Project Siting

42. The government considers land use policies and/or other relevant policies for locating new oil and gas development.
43. Consultation is required for the siting of new oil and gas development.

5.0 Ensuring Effective EIA Monitoring and Follow-up

5.1 Environmental Monitoring and Follow-up

44. Environmental monitoring and environmental management plans are required for review and approval for oil and gas projects.
45. Regular monitoring is undertaken by the responsible agency and involves tracking changes to the environmental or social baseline of a region resulting from all activities in the area.

46. There is independent monitoring of project impacts, mitigation effectiveness, and compliance assessment for large projects with significant environmental and/or social impacts.
47. The results of environmental monitoring are made publicly available.
48. In the case that monitoring indicates that prescribed mitigation actions are not working, adaptive management is applied.

6.0 Optimizing Regulatory Enforcement

6.1 Regulatory Enforcement and Compliance

59. The responsible authority primarily invokes a command and control approach to regulatory enforcement and compliance.
60. The following command and control approaches are invoked:
 - Fines, sanctions, or monetary penalties
 - Closure of facilities
 - Suspension of permits
 - Imprisonment of officers or responsible corporate parties
 - Costs of pollution clean-up
61. Indirect enforcement measures include the following:
 - Recordkeeping and reporting
 - Public release of noncompliances
 - Issuing bulletins or other statements to operators on enforcement procedures
 - Conducting environmental audits
 - Seeking assurances of voluntary compliance
 - Encouraging mediation and arbitration
62. Remedies are available to the public to seek the enforcement of environmental laws and regulations.

7.0 Eliminating Barriers to Information

7.1 Environmental and Social Information System

27. The government has an information system (which may or may not be electronic) to store and retrieve baseline and other types of environmental and social information associated with oil and gas development.
28. The system is accessible to all stakeholders, but may restrict different types of information or layers from certain parties.
29. There are sufficient resources to ensure that the information system receives proper maintenance, maintains a high integrity of information, and has up-to-date content.

7.2 Transparency and Information Dissemination

63. The responsible institution has an information disclosure policy.
64. The responsible institution makes a commitment to respond to all requests for information and provides justification for any denial.
65. Information dissemination is conducted early in the project cycle.
66. The form and method of information dissemination considers the following:
 - Language
 - Culture
 - Special consideration to target vulnerable or disadvantaged groups.

- Indigenous populations

8.0 Incorporating Best Environmental Practice

8.1 Best Environmental Techniques and Best Environmental Practices

77. Environmental institutions have a policy that promotes best environmental techniques and best environmental practices jointly with industry.
78. Compliance with international best practices and standards is required for oil and gas development projects.
79. The institution has a process to review and change laws to incorporate the latest environmental standards.

9.0 Understanding Future Liability, Clean-up, and Reclamation Costs

9.1 Decommissioning and Abandonment

49. The government has an established process for managing the decommissioning and abandonment of oil and gas projects.
50. Liability for oil and gas activities rests with the owner/operator, or transfers to the government after the conclusion of resource extraction.
51. Governments are required to approve decommissioning and abandonment plans.
52. Decommissioning and abandonment requirements apply to all onshore oil and gas facilities (well sites, pipelines, and production facilities).
53. Decommissioning and abandonment requirements apply to all offshore oil and gas facilities (wells and flow lines, subsurface production facilities, platforms, and pipelines).
54. There are specific guidelines specifying the residual limits for contamination in soil and water.
55. The government makes or confirms an assessment of liability costs associated with restoration.
56. Government requires that the owner/operator provide security in the form of a deposit, bond, or other financial instrument for future liability associated with oil and gas activities.
57. There are procedures in place for assigning decommissioning and abandonment costs of orphan wells.
58. The government has a commitment to ensure that inactive oil and gas facilities are remediated in a timely manner.

10.0 Effective Risk Management

10.1 Risk Avoidance and Management

80. The government is committed to implementing the precautionary principle that, where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.
81. The environmental assessment process should contain a description of emergency response procedures in relation to an accident, natural event, or other emergency.
82. There is a process to monitor the effectiveness of the emergency response plan by both the proponent and the responsible institution.

83. The environmental assessment process considers the following in relation to risk and risk management:
- Human health
 - Flora, fauna, ecosystems, and biodiversity
 - Soil, water, air, climate, and landscape
 - Use of land, natural resources, and raw materials
 - Protected areas and sites of special significance
 - Heritage, recreation, and amenity assets
 - Well-being of affected communities

11.0 Climate Change

11.1 Climate Change

10. The national government participates in the World Bank's Global Gas Flaring Reduction Initiative.
21. Measures are in place for reporting of greenhouse gas originating from the oil and gas industry and reducing emissions where possible.

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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/credits/grants, technical assistance, policy dialogue, and analytical work, the Division leads a work program with multiple 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 regulatory 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 and domestic private sector 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 developing country 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 petroleum governance frameworks, including linkages to environmental and community issues.



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