



OECD GLOBAL FORUM ON INTERNATIONAL INVESTMENT
Conference on Foreign Direct Investment and the Environment
Lessons to be Learned from the Mining Sector

7 - 8 February 2002

OECD Headquarters, 2 rue André Pascal, 75775 CEDEX 16, Paris, France

**Attracting Foreign Direct Investment in Mining:
The Role of Reliable Environmental Frameworks and Competent Institutions**
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Is it worthwhile for developing and transition countries to invest in their ability and competence in environmental management? Or are stringent regulatory frameworks and effective institutions and individuals that implement them a disadvantage in the competition for international investors? This paper looks at the situation in the mining sector worldwide and identifies three reasons to believe that better competencies in environmental management are an asset enhancing countries' international competitiveness with regard to foreign direct investment:

- *First, mining companies, in this day and age, have less reason to be concerned about the cost of good environmental management of their operations than they have reason to be concerned about the reputational and financial risks from having caused, advertantly or inadvertently, environmental damage.*
- *Second, the biggest problem for a mining company – if things go wrong on the environmental front – is usually not the technical solution for mitigating an emergency. More problematic for companies is their lack of credibility that arises from an accident and that prevents finding long-term sustainable solutions acceptable to affected communities.*
- *Third, the clearer legal frameworks and the more competent government institutions are in safeguarding the environment, the more likely is it that these institutions can play the role of an “honest broker” in monitoring environmental performance, thereby reducing operational risks for the mining companies.*

The paper discusses some of the trends that are – worldwide - increasing the importance which investors place on clear environmental frameworks and competent institutions, most notably the ever tighter link between company environmental performance and financial performance. The paper concludes with recommendations for governments and other interested parties towards improving environmental frameworks and building capacity to monitor and ensure they are respected.

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Attracting Foreign Direct Investment in Mining: The Role of Reliable Environmental Frameworks and Competent Institutions

James Bond¹

1. Sound environmental management in developing countries' mining sectors is key competitive asset

Mining operations across the world are easily recognizable: by the very nature of what mining means – digging, removing soil and overburden, and separating out ores and non-metal minerals– these operations leave behind environmental “footprints”. Such “footprints” can have a number of different effects, at worst seriously limiting the ability of surrounding communities to earn and sustain their livelihood, in particular in areas where communities rely on their natural environment to provide for food, shelter, transport, and other opportunities. Furthermore, more mining for key mineral resources takes place in developing countries than in the developed world. Therefore, the World Bank Group, whose mandate is to work towards the reduction of poverty and the betterment of people's lives in developing countries, takes a keen interest in helping governments and others involved to establish systems to manage the environmental, social and economic impact of mining in a manner that balances the interests of the various groups involved, and that is sustainable in the long run.

In the World Bank Group's work with governments, mining firms, and communities and NGOs in developing countries across the world, it has become increasingly clear that the institutions and systems which countries establish to regulate, manage and monitor the environmental impact of mining operations directly influence the extent of investors' interest in starting-up or taking over a particular mining operation. Yet, this influence does *not* appear to result, as one

might think, in different countries competing against each other for investors by *lowering* their standards. Indeed, mining firms are learning that the social and political consequences of environmental damage, caused by careless regular operations or by accidents or spills can be extremely costly for their business. In recent months and years, they have seen the financial performance of mining projects being affected by a plethora of such events and often related problems with the adjunct communities. In managing the environmental dimension of their mining projects, these firms increasingly look for competent regulators and efficient institutions that understand the importance of reliable and widely accepted environmental frameworks.

2. Financial success for mining firms is increasingly linked to environmental competence

Few other industries have to face similar challenges, in terms of historical environmental liabilities, rapidly evolving global environmental conventions and treaties and continuously shifting compliance requirements and obligations with regard to local communities in terms of land-tenure issues, information and consultation, to name but a few. Social and environmental issues in the mining sector have, over the past two decades or so, become increasingly complex and interlinked, and their influence on profitability and share values are being felt by corporate leaders.

Evidence is beginning to mount that shows mining firms' financial performance to be significantly better if these firms are able to competently manage the environmental performance of their operations - by

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ensuring smooth processes, avoiding accidents, and saving energy and the use of raw materials. A recent report put forward by Innovest Strategic Value Advisors Inc of New York², shows that top environmental performers in its annual survey of the global metals and mining industry posted accumulated returns that were over 60% higher than environmental laggards, over a 3 year period, and 10% higher returns over 1-year. Total per share returns on equity and earnings growth were also found to correlate positively with environmental leadership. The report emphasizes that what makes the relationship between environmental and financial performance stand out in the metals and mining industry is the extent to which environmental and social issues influence the bottom line: Expenditures relating to energy consumption, mine closure, waste management, and spoil mitigation are becoming increasingly relevant to company profitability.



Source: Innovest, New York

3. *Environmental risks have steadily grown over the past decade – as much because of poor performance as because of better “watchdogs”*

Over the past decade or so, environmental issues have increasingly become important in particular for *multinational* firms

² Innovest’s annual survey assessed the performance of 21 of the world’s leading minerals and metal companies in areas such as environmental management, resource usage, climate change, mine decommissioning, and sustainability-related opportunities in new markets.

investing in developing countries. Progress in information technology and the more widely available access to communication have resulted in an unprecedented degree of networking amongst civil society groups in developing countries and those in developed countries. Increasingly, and with unprecedented speed, many of the latter take up a role of advocating the interests of the former. Nothing can produce quite the same negative impact on a mining firm’s reputation as news of an environmental disaster, incident or accident, taking place in a developing country and advertised in real time and with graphic details by well-connected civil society groups throughout the developed world’s media.

The increased interest also spurs ever changing expectations regarding standards and performance. The expectations of local communities, national governments and others about the effectiveness of the industry in addressing environmental concerns have risen significantly, and these expectations are being reflected in changing policies, regulations and best practices. Consequently, the scenery changes, and mining companies experience increasing uncertainty regarding the planning and the implementation of their projects. What is valid today, in terms of required measures and steps on environmental performance, can change tomorrow. What is acceptable today, might cost them high fines tomorrow.

The stakes for mining firms are getting higher: Ultimately they risk losing their “social and political license to operate” - the unspoken agreement and understanding with civil society, both “on the ground” and in the realm of international politics, that a particular operation is desirable and should be supported, rather than actively opposed. Losing this “license to operate” can have imminent financial consequences, ranging from falling share prices to losing access to capital.

Many companies thus react to uncertainties evolving from rapidly changing

environmental standards by committing themselves on their own account to higher standards than might currently be required by their host country. Stability of rules is becoming key, and every country that demonstrates its commitment and ability to set appropriate and reliable environmental rules, at acceptable international standards, and to monitor these standards in a credible way, will stand out to investors, providing a stable framework that permits the management and planning of risks associated with the operation.

4. What mining firms can do – by themselves - in managing environmental risks is important, but limited

The environmental risks of mining operations are well documented and include: (a) removal of soil and forest canopy; (b) soil, air, and water pollution, including impacts on global warming³; and, (c) the destruction of fragile ecosystems and diminished biodiversity.

Instruments and processes for managing, minimizing, and mitigating environmental risks by mining firms include:

- clear guidelines for operations;
- thorough environmental impact assessments (EIAs) and associated action plans;
- consultation with stakeholders at all phases of operations;
- procedures for identifying liability and appropriate compensation in cases of harm;
- preparation of an initial closure plan at the time of project approval and subsequent updating on a regular basis during the project life;
- provision of the necessary resources to fully implement the closure plan;
- clarifying and establishing, where necessary in partnership with government agencies, post-closure monitoring and supervision as needed.

In the past, mining operations have sometimes wreaked significant damage to the environment leaving unfortunate

³ methane seepage from coal mines, in addition to causing local environmental damage, can contribute to global warming.

legacies that, when reversible, may need extensive programs to remedy. Over the past 20 years, however, the industry has increasingly recognized the need and obligation to identify and mitigate any adverse environmental consequences of their activities.

The technology and knowledge needed to minimize or eliminate many adverse impacts exist and are in practice in many cases. Most of the major companies today recognize the need for careful adherence to available standards, and, in most cases, successfully apply them. Remaining challenges for the private sector arise mostly from:

- limited capacity, mostly but not exclusively, amongst junior mining firms to apply and continuously follow up on evolving environmental best-practice;
- an increasing tendency amongst many major mining firms to outsource significant parts of their operation, and the often slow follow-up in obliging sub-contractors to environmental performance standards;
- the need to continuously enforce and follow-up on environmental performance standards throughout the many years of a project's life – enthusiasm and diligence often dwindle the longer a project is under operation;
- the need to gain – and maintain – the trust of the local community, of the people most at risk of being exposed to potential environmental risks that they often can neither see, smell or feel, nor understand by the means of the typically highly complex jargon and analysis used for assessment and monitoring.

5. Designing the right environmental laws and regulations

When governments examine and possibly re-design, laws, regulations, and direct agreements with mining companies, as well as proactive policy interventions regarding

environmental issues, it is important that they take the realities of their specific context into account. Although we may see good models for the regulatory framework by looking at the practices in a number of industrialized countries which have large mining sectors, it must be remembered that these have typically developed over many decades. In the countries in which the World Bank Group operates, the institutional framework is often very weak, in terms of legal systems, functioning institutions and depth of human resources. In addition, the environmental and ecological conditions can be different from those in which many mining regulatory evolved, particularly in relation to working in high rainfall tropical conditions.

The World Bank Group has been working on these issues with governments and with investors across the world, in particular in a number of countries in Latin America and in West Africa. Progress has been variable but it has become clear that an understandable and reliable environmental framework is an important factor in encouraging foreign capital investment in the sector.

From a strategic point of view, environmental administration of the mineral sector should form part of a wider national environmental management system, with established policies, legislation, and enforcement procedures. The main elements of such a system are:

- Development of an environmental policy, including the establishment of goals and the formulation of strategies for achieving them.
- Elaboration of a national environmental action plan (NEAP) for all business sectors, promulgation of an “umbrella” environmental law, and enactment of sector specific laws and regulations.
- Establishment of goals for the environmental quality of different ecosystems, and standards for industrial emissions to the air, effluents to water bodies, and solids discharges.

- Establishment of public institutions responsible for environmental management and law enforcement.
- Training personnel in environmental management.
- Maintaining effective public environmental management by promotion of environmental knowledge and information, and the encouragement of public participation in environmental matters.

All these elements have a bearing on the mining industry, although to different degrees and with large differences between countries. The methods employed for achieving the goals will vary considerably, and will depend on local, natural, socio-economic and cultural conditions.

Under all circumstances, however, it remains essential to have a *process* of gradually establishing:

- Legal basis for environmental control;
- Basic institutional responsibilities and resources;
- Essential regulatory framework;
- Monitoring and enforcement procedures, including public disclosure;
- Operating resources (staff and budget) to address priority issues/areas.

The foundation of a successful system is to achieve some clear initial results and so to provide confidence to the public and to investors that at least the most critical problems are being addressed.

Much of the success of environmental legislation and corresponding regulatory frameworks can depend on the details and the appropriateness with respect to a given country. In some of the Central Asian countries, for example, the long legacy of environmental damage stands in stark contrast to a very strict environmental legislation which fails to take into account the given situation by differentiating appropriately between pollution *stocks* and pollution *flows*. Further complications arise

where regulations tend to measure “end of pipe” pollution, rather than the actual impact on the environment. In the absence of appropriate capacity for monitoring and enforcement, the contrast between a demanding legislation and the reality of business has given rise to corruption and embezzlement.

The costs of *not* setting up well-designed legal frameworks for environmental management – and functioning institutions to implement those – can be massive for every country. Examples can be found in countries like the Ukraine and Romania in Eastern Europe, Zambia and South Africa in Africa, and the Dominican Republic in Central America. Malfunctioning environmental regulations and institutions can be a source of serious corruption and fraud, and they can work contrary to what originally was intended, *increasing* environmental risks and massively *decreasing* the sector’s attractiveness vis-à-vis foreign investors.

In considering setting up such frameworks and institutions, governments will want to keep the “bigger picture” in mind: Environmental rules and regulations need to be integrated into a vision of a vibrant mining sector that, by attracting private investments, can create a foundation for environmentally, socially *and* economically sustainable well-being for the local communities and the population at large. In fact, many countries feel that they need to assess and evaluate the environmental risks of any given mining project against the economic benefits which the project can bring, through its commercial and other interactions with the surrounding region. Such trade-offs may be involved in this respect through the whole length of the project life – from exploration, development, operation, closure and beyond. These trade-offs and the implied choices need to be understood and “owned” by all relevant parties, including communities and local governments.

There appears to be a need, in many cases, for a more structured approach for discussing and understanding some of these complex issues. The real focus of interest for most parties are the specific mining operations or investment opportunities and unfortunately less attention is often given to the context and to the institutional framework which govern the final shape of such operations. There is frequently a need for independent analysis and advice on regulatory issues and for structured review of the environmental and social issues in the sector at large or in a specific region. A variety of tools is available for such work, including analytical studies, various types of consultative approaches and Strategic Environmental Analysis. However, such work requires both the commitment of the decision makers in the sector and the allocation of resources, both of which can be difficult to obtain.

The good news is that essentially all developing countries todate have developed National Environmental Action Plans (NEAPs) or related or equivalent country strategies, with follow-up activities which helped to put in place legal frameworks and related institutional mechanisms. The challenge now is to ensure availability of human and financial resources for the implementation of these strategies and frameworks, and to find pragmatic solutions that take into account limitations in resources and capacity where those might persist.

6. Implementation: Building institutions is the key challenge

Drafting and passing appropriate environmental legislation is not easy – but the bigger challenge comes when institutions are established and staffed that can write practical regulations and can then implement, monitor, and enforce laws and regulations. One of the most important issues to decide is whether a country wishes to pursue a “sectoral” or an “integral”

approach to environmental management. In our experience, an integral approach, through an environmental governance institution (EGI) which is not tied to a specific sector and which forms part of the overall development planning scheme, is the preferred solution. However, in those countries which have yet to develop their EGI, the sectoral approach, with an environmental office within the Ministry of Mines, provides a practical scheme for the start of environmental work as it allows easy access to technical expertise and a better understanding of the issues involved. Once the basic instruments and procedures are in place, movement towards an integral or mixed approach, where sectoral offices are coordinated by national central authority, is recommended.

Another very difficult practical issue relates to the level at which the responsibility should be located – on the federal or the provincial level, and where are there enough staff and resources available? These decisions are heavily influenced by the particular national circumstances and by trade-offs such as federal institutional capabilities versus local knowledge of the mine and surroundings, and national appropriation of revenues versus agreed revenue sharing versus local rent seeking; and so on.

A review of the different systems that have evolved in Latin America for managing environmental issues in the mining sector showed that no single conceptual model dominated and that pragmatic approaches have evolved⁴. In Peru, a country with a strong mining tradition and weak environmental capability, much of the environmental responsibilities is located in the Mining Ministry where there is considerable relevant expertise. This ensures a knowledgeable and pragmatic approach to environmental issues but leaves

⁴ World Bank (1996) A Mining Strategy for Latin America and the Caribbean, World Bank technical paper, ISSN 0253-7494, #345.

concerns about the country's capabilities for independent monitoring and enforcement. In a country with a strong federal structure, such as Argentina, the Provinces have significant responsibility and some (with Bank support) have clear and reasonable systems. Argentina did not have national legislation for environmental prevention specifically for mining industry to start with. The country then passed a National Mining Environmental Law and came up with a monitoring system that looked at the ambient environment, with a before and after database. At the same time, capacity was built within the provinces, providing training, instituting specific procedures and business processes, and increasing logistical support to environmental agencies, all based on the premise that each province has to monitor their own area.

Many countries have developed different ways of dealing with capacity weaknesses with regard to their institutions. An interesting example is South Africa which has moved forward by introducing extensive public consultation processes, to some degree mitigating its own limitations in monitoring capacity by extending the involvement of the general public.

The overall conclusion is therefore that the environmental institutions and systems have to be designed to work with the local structures are not against them, though of course some level of reform or reorganization may often be needed.

An emerging and potentially very important dimension of the institutional challenge is the commitment of many major international mining firms to sound environmental and social performance, even where the local regulatory system is weak. Such companies accept that there are some basic levels of performance that should be adopted as a matter of good corporate behavior. Given that these companies often have more expertise and more resources than the regulators with whom they are dealing, a cooperative approach can greatly benefits

the efforts of local regulators. Where such corporate initiative is combined with the genuine involvement of local communities, there is a much higher probability of finding broadly acceptable resolution of environmental and social issues relating to mining developments. The World Bank Group, as part of a pilot program “Business Partners for Development”, has been supporting a number of practical case studies of such “trilateral” arrangements between mining companies, governments and communities, to understand better the most promising approaches. One relevant part of the discussion is to what extent can governments and government agencies rely on third party involvement in the monitoring, for example through local organizations and/or accredited independent consultants?

Meeting the challenge of implementation through tripartite cooperation is, however, complicated by huge differences amongst the various corporate actors. Most of the major multi-national firms are attempting to work seriously towards improved performance, even where regulation is weak. However, there are some companies that are more inclined to take advantage of weaknesses in the framework. This can lead to a competitive advantage to the less scrupulous firms and to public distrust of the sector as a whole. Helping governments and their mining partners to create a more level playing field, where all operators come up to an acceptable level of performance is one of the objectives of the work of the World Bank Group in this sector.

7. Specific issues for environmental laws and regulations in the mining sector

Specifically relevant for the mining sector is that laws and regulations, as well as institutions monitoring and enforcing them, need to be designed with the *entire* cycle of a mining project in mind – including exploration, construction, operation, closure, and post-mine closure. Here six issues are important:

- land and water use;
- waste management;
- chemicals and pollutants;
- tailings disposal;
- air pollution; and
- noise control and abatement.

Governments will want to monitor whether and how these impacts are addressed and managed in terms of potential human health risks, potential environmental risks, and the plans and actions to mitigate these risks. If mining companies have agreed to follow voluntary codes of practice and management systems: Do these have international acceptance? Do they go beyond legal requirements? If so, are there any enforcement mechanisms built into the voluntary agreement? Can the different types of safeguards (laws, regulations, policy interventions, voluntary agreements) be considered adequate, respected, and implemented, and can they be monitored? Is there independent monitoring, by third parties, or participatory monitoring with representatives of local communities? Can safeguard mechanisms, once established, be used for marketing the sector to potential investors (e.g. by advertising the reduced investment risks and greater operational ease)? If the system of laws and regulations is found not to be adequate: Is a *process* for establishing such a system chosen that would balance national and regional priorities and circumstances with the need to ensure international best practice?

Special regulatory provisions need to be made for the case of mine closure. We have learned some key lessons regarding the environmental costs of mine closure through the World Bank’s work in much of Eastern Europe, where support has been provided to the Governments of Poland, Ukraine, Russia, and Romania in financing much of the clean-up of the environmental legacy left behind following massive mine closure programs. Are environmental responsibilities defined for orphaned sites and for decontamination of the land? What

is the definition of closure, reclamation, and clean-up? What is the definition of rehabilitation – for example, returning disturbed land to a predevelopment state or alternative uses of the land? What agreements can be reached on the use of land after mine closure, in particular, for land rehabilitation? Are safety issues, such as tailings dam spills, in the post-mine context taken into account in the mine closure plan? What are the arrangements for post-closure monitoring, site stability and environmental protection?

8. Biodiversity and Global Warming – what role should governments play?

Remedies for global impacts – such as global warming and biodiversity loss – present a special challenge for governments. The decisions about the options involved (e.g. development versus conservation) and the costs of actions needed are local issues, however, the benefits may be largely global. In some cases, it may be possible to obtain the desired results if mechanisms can be established that can find parties who are willing to pay the local costs needed to gain the global benefits.

In the case of global warming, for example, the Global Environmental Facility (GEF) and subsequently the Kyoto Protocol framework are serious attempts to address this issue. The latter envisages the creation of global markets for carbon emissions that would provide investors (including investors in developing countries) with extra revenues for having invested to reduce emissions beyond what narrow commercial or national self-interest would necessarily have dictated. Carbon-trading mechanisms could become highly relevant for coal mining – as far as coal-bed methane recovery is concerned – and governments will have to play a key role in facilitating such arrangements.

Increasingly, large-scale mining is reaching some of the most remote and biodiversity-rich ecosystems on earth, driven by growing

global demand for minerals and rapidly changing technologies and economics in the mining sector. Until recently, many of these areas were closed to foreign investment and largely unexplored and undeveloped for minerals and other natural resources, thus allowing them to remain ecologically pristine. Now, economic liberalization, privatization of resource extraction, and general improvements of the business climate for investment in developing countries are beginning to open these areas to an unprecedented level of industrial development. Governments must play a key role here, but there is a very interesting context of ongoing work by a number of international organizations and civil society groups towards defining “international biodiversity hot-spots”. This work can help Governments to choose to designate and safe-guard areas which they wish to preserve. As of yet unclear, but on the horizon, is the question whether and to what extent the preservation of “biodiversity hot-spots”, if defined globally, should involve payments by the global community to compensate developing countries for a loss in potential economic development opportunities whenever they choose to preserve rather than to develop. Already, governments are beginning to negotiate, with investors about mitigation measures and/or off-set investments that can finance support and enhancements for biodiversity areas that would *replace* or *mitigate* some of the biodiversity losses elsewhere.

9. The World Bank Group works with governments and the private sector towards enhancing environmental performance in the mining sector

The World Bank Group’s mandate is to fight poverty and help improve people’s lives in developing countries. In working towards this objective, we are aware that the mining sector for many countries is the largest and often the only source of government revenues, providing resources that are needed to finance social and physical

infrastructure and other means to support economic growth and reduce poverty. At the same time, the poor are exposed most to risks associated with mining operations: they often do not participate in the economic opportunities of mining while bearing many of the costs as well as risks that result from the introduction of a mine in an undeveloped area.

A large-scale mining operation requires major capital investment in infrastructure, technology, services, and employment. The ability of the poor to participate in this investment can be limited by their education and work skills. Even worse, their income-sustaining opportunities and livelihood might be reduced due to the presence of a mine. This can happen since the mine might use natural resources such as land and water on which the poor in particular may depend, for their incomes from agriculture, fishing, or hunting. At the same time, environmental damage incurred during a mining operation (often left behind after mine closure) ranging from water pollution or restricted water quantity to tailings and subsidence,

***Assistance for Governments:
What the World Bank Group can provide***

Assistance provided by the Bank Group to governments emphasizes the need for policies that maximize the positive impact which the minerals sector can have on the overall economic development as well as on poverty reduction, while mitigating negative impacts. Specific projects currently underway within the mining department focus on::

- Reform and capacity building for government agencies and ministries involved in the mining sector, in particular with regard to economic management and fiscal administration;
- Legal and fiscal frameworks to attract private mining investment;
- Social and environmental frameworks for responsible mining;
- Privatization of parastatal mining and industrial enterprises, including closure of unprofitable stat-run mines;
- Regularization of small-scale and artisanal mining.
- Partnerships with important stakeholders.

can seriously impact people's well-being and livelihoods.

Since governments and the private sector so closely interact in the context of mining, the World Bank Group is closely coordinating its services to Governments (through the International Bank for Reconstruction and Development (IBRD) or the International Development Agency (IDA)) and its services to the private sector (through the International Finance Corporation (IFC)). Work on public sector policy and on private sector investments is managed through a single global Mining Department, providing a simple and direct contact point for Government, private sector and civil society clients.

Services provided to the private sector emphasize the promotion of minerals investments that are socially and environmentally sound and that support lasting economic impact on the region or country concerned. With its mix of financial, environmental, and social expertise IFC is often able to play a helpful informal role as an "honest broker" between investors, governments and communities. IFC is a substantial financier of minerals projects in developing countries and acts as a catalyst for the investment of additional private sector debt and equity funds in the projects which it finances.

***Working with the Private Sector:
IFC's support for mining projects***

- IFC's operational and constitutional requirements demand that the projects which it finances must:
- be in the private sector in developing countries;
 - be technically sound;
 - benefit the local economy;
 - be commercially viable with the expectation of profits: and
 - comply with the World Bank environmental and social policies and IFC guidelines.

The World Bank Group has developed safeguard policies for environmental and social issues that are reviewed with every mining firm before conducting an

assessment of a potential project. During the appraisal process, policies are identified which will be applicable to the project. After an investment decision, the project's performance is continued to be monitored against these policies, for the duration of IFC involvement, e.g. until a loan is paid back. Compliance is the expected standard, in addition to compliance with applicable local, national, and international laws. The Bank's safeguard policies are derived from our 45 years of extensive experience developing projects around the world, and they give project sponsors a powerful instrument for avoiding mistakes, reducing development risk and improving project sustainability. They extend to:

- Environmental Assessment;
- Natural Habitats;
- Pest Management;
- Indigenous Peoples;
- Cultural Property;
- Involuntary Resettlement;
- Forestry;
- Safety of Dams;
- International Waterways.

There are also other policies – on forced labor and harmful child labor – which describe projects that IF will *not* support. Furthermore, IFC works with its clients on doing better business through effective public consultation and disclosure, and suggests enhanced work on pollution prevention and abatement, where appropriate.

10. Defining Responsibilities: The Task for the future of environmental management in developing countries

The past decade has seen a growing appreciation among stakeholders of the need to work together on environmental issues in the mining sector issues that no one group can fully deal with alone. Over most of the period, however, the appropriate boundaries of each stakeholder group's contribution remained blurred and a source of confusion

and tension. Even the definition of "stakeholders" is still not without some controversy, with the relative interests, responsibilities and direct exposure to risk of the various groups covered by this umbrella term varying hugely. However, more recently, a consensus, albeit incomplete, seems to be emerging regarding potential roles and responsibilities.

Governments. Governments are ultimately in charge of setting the rules by which mining takes place in a given jurisdiction, and their actions will be critical to achieving sustainable benefits from extractive industry operations for the national economy. They must provide strategic direction; the requisite legal, regulatory, and institutional frameworks to pursue social and environmental goals; accountability, openness, and inclusion; and systems to achieve widespread and tangible benefits for the country's citizens.

Local communities. The rights of local communities, who will be most directly affected by mining operation's environmental impacts, can be safeguarded if their concerns are listened to and respected and if they are able to take an active role in understanding and influencing extractive operations. Sometimes, assistance to increase the capacity of local communities may be needed to allow them to participate effectively during consultation and in monitoring operations. Increasingly, the division of the fiscal benefits from resource development has become an issue for local communities. This needs to be seen in the overall context of national taxation collection and spending arrangements, but some form of revenue sharing through the various levels of government down to the local community would be a way of ensuring sharing of the costs and benefits of development.

The private sector. The private sector is expected to provide the capital, technology, and managerial expertise to run mining operations. It must also comply with all

local laws, regulations, and contracts, including those that deal with social and environmental topics, and normally go beyond this where home-country standards, operations in other countries, or internal guidelines set higher standards. Issues arise as to the appropriate boundaries of private sector action when, perhaps faced with the incapacity of governance structures, the private sector is asked to address a whole range of issues outside its traditional mandate. In considering the private sector, the range of potential investors needs to be kept in mind: from the largest international companies to small local companies and even artisanal miners. Capacities, incentives, and priorities may vary hugely and present particular issues.

Civil society. Members of civil society, including local and community-based organizations, have at times been an effective monitor of the impact of mining operations and an advocate for change by government, industry, and international development agencies. They have, at times, won praise for advancing the development agenda and for drawing attention to issues that might have been overlooked or not given sufficient importance. Many civil society organizations, including local community-based organizations, are active in implementation of policies and programs designed to promote sustainable development and reduce poverty. In the case of the extractive industries, Non Governmental Organizations (NGOs) and Community Based Organizations (CBOs) may sometimes be able to play a role in areas such as, for example, the delivery of social services and the administration of project trusts and infrastructure or capacity building with regard to social and environmental monitoring.

International development agencies. International development agencies such as the World Bank Group (WBG) are well-placed to support both government and the private sector by assisting in sector reforms and the preparation of investment

frameworks; providing loans, equity finance, or political risk insurance to investors; and advising on governance, social, and environmental reforms. International agencies have a unique ability to operate at the interfaces between governments, investors, and civil society groups. The leverage of their development funding can be persuasive in securing the enactment and implementation of sector reform; effective management and mitigation of risks; and evolution toward socially acceptable and environmentally sustainable development. Their objectivity and global experience can also give these agencies special credibility and convening power that can enable them to play a useful role locally or internationally at the request of governments and other stakeholders. Such agencies can use their convening power to bring a variety of groups together in a way that facilitates constructive dialogue and paves the way for participatory processes, especially those that spread across national boundaries.

Bilateral Donors. Bilateral Donors are often partners in projects financed by the World Bank Group. This is also the case for the mining sector, where governments might co-finance public policy projects directly, or where they are involved in private sector projects through their export credit agencies, or through trust funds or similar arrangements. The partnerships may take various forms, ranging from co-financing or parallel-financing to complementing WBG activities with grant resources, particularly for capacity building and for specific environmental and social activities related to the project. In general, partnerships are established on a case-by-case basis. There are of projects in which bilateral donors have a competitive advantage in assisting governments and civil society achieve certain development goals, notably in certain types of capacity building and training programs.

Partnerships. Over the past decade, many governments and investors have come to recognize that they can no longer “do it

alone” and partnerships are needed to successfully develop extractive industries. Civil society in general, and affected communities in particular, need to be fully consulted and supportive if extractive industries development is to take place in a satisfactory and sustainable manner. Trust among stakeholders, developed over time through joint undertakings, while respecting each others’ role or comparative advantage, has become almost a prerequisite to sustainable extractive industries development – that is, development that brings net benefits to the community, the region, and the country long after the resource has been extracted and the project completed.

Codes and Guidelines. A growing body of mostly voluntary agreements, codes, or inventories of best practice is shaping performance in the extractive industries in a positive way – a good example being the currently discussed international cyanide management code (www.cyanidecode.org). Effective consultation and partnerships can lay the basis for development and implementation of such codes and guidelines which can be applicable at both the sector level and that of an individual project. To be effective, of course, codes and guidelines, need stakeholder groups to have the capacity and motivation to effectively fulfill their respective roles.

11. A Final Word: Investment, Competitiveness, Environment and Beyond

As our knowledge of the scientific and operational issues has increased, the emphasis of environmental management is now shifting from avoidance and mitigation of any harm to the generation of environmental benefits that create a more favorable *net impact* from development. Examples might include new investors undertaking the remediation of past bad practices by others. Or, in addition to the application of best practice to their own operations, investors might support the safeguarding of other areas of possibly

greater importance that might be under threat (referred to as “offset areas”), or fund or participate in environmental research, for example in biodiversity surveys or experimental research.

It will be these areas that are likely to dominate the discussion about environmental issues in mining in developing countries over the next decades. By then, developing country governments will have long brought their houses in order in terms of environmental management.

Useful References:

- World Bank Group Mining Department: www.ifc.org/mining
www.worldbank.org/mining
- World Bank Group Guidelines on the environment (IBRD/IDA, IFC, MIGA)
http://www.worldbank.org/environment/op_policies.htm
- The World Bank Group’s environmental agenda: www.worldbank.org/environment
- Experiences with Partnerships between Governments, Mining Firms, and Local Communities: <http://www.bpd-naturalresources.org/>