

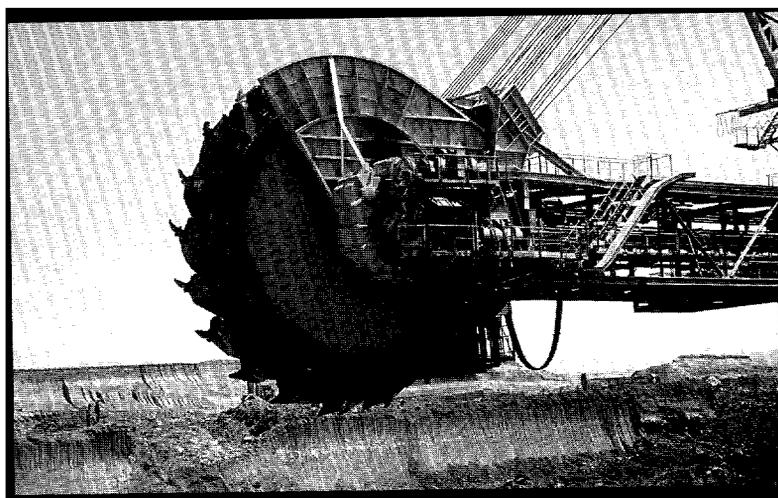
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EMT OCCASIONAL PAPER NO. 11  
April 1998

# 11

## Mining and the Community: Results of the Quito Conference

Gary McMahon, Editor



The World Bank  
Energy, Mining and Telecommunications Department



## Editor's Note

The Inti Raymi Foundation replied several months before publication to the comments made by the community representative. Unfortunately, due to a communication failure, the comments did not reach the author of Chapter 6 or the editor until a week after publication. Below is the reply of the Foundation to the points on pages 50-51.

With respect to lack of information and transparency, especially on environmental impact assessments and taxation: "Both environmental and taxation concerns are the responsibility of the mining company, Inti Raymi, and not the Foundation, which is not competent in either of these areas. Nevertheless, the company widely disseminates its actions to prevent damage to and restore the environment. With respect to taxation, the company follows the norms of Bolivia, which are public knowledge."

With respect to the lack of community involvement in the decision process and failed projects: "The Foundation undertakes projects with the beneficiaries, not by itself for the beneficiaries. It promotes, stimulates, and coordinates participation in the different stages of the projects. Evaluation of projects is also undertaken with the beneficiaries. Many projects are identified by the communities themselves; other projects, usually concerned with basic needs, have been promoted by the Foundation. With respect to new and ongoing projects, there is constant coordination with all of the relevant stakeholders—that is, the communities, the Prefecture of the Department of Oruro, and Municipalities in the region. The text should also be more precise about failed projects as the evaluation of the Foundation is that the projects are obtaining important results."

With respect to the continually changing staff and too much money spent on diagnostics versus investment: "In the early years of the Foundation, substantial funds were spent on defining and elaborating projects, but this soon changed and over 80% of the projects that were studies have been or are in execution. The staff has changed considerably as different projects need different people. Moreover, it is unfortunately difficult to keep professionals to work in rural areas."

With respect to using the Foundation's investments to reduce the company's tax payments: "Since March 1997 the company is subject to the new tax code which does not permit any the deduction of donations from taxes or royalties."

With respect to financing from the Social Investment Fund: "This Fund has cooperated with the Foundation in an important manner. In sum, it has provided approximately 20% of the funds invested by the Foundation from 1991-1997. These funds are usually for building infrastructure while the Foundation provides the funds for the operation of the projects."



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Gary McMahon, Editor

April 1998

The World Bank

**Energy, Mining and Telecommunications Department**

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*Cover: Excavation at an open-cast lignite mine at Elbistan in East-Central Turkey, part of a World Bank Project: Alfin-Elbistan Lignite & Electric Power Project. Photograph courtesy of Yosef Hadar/World Bank.*

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## **Abstract**

This technical report contains the written output of the conference on "Mining and the Community," held in Quito, Ecuador on May 6-8, 1997. The conference was organized by the World Bank with assistance from the Government of Ecuador. Funding for the conference was provided by the Government of Ecuador, the Government of Canada (via the Canadian International Development Agency), and the Industry and Mining Division of the World Bank. The agenda for the conference is in the annex.

The report begins with a description and synthesis of the results of the conference. This chapter draws heavily on the other chapters of the report plus the presentations and discussions at the conference. Chapter 1 is also intended to serve as an executive summary.

It is followed by summaries of each of the five workshops held at the conference: the themes of the workshops were consultative processes, legal aspects and rights of the community, economic benefits and costs, social benefits and costs, and management practices and the community. Indigenous issues and environmental issues were cross-cutting themes discussed in all five workshops.

Finally, we have included most of the papers which were written for the conference. Presentations for which there were no written documents or only (overhead) points are not included, although many of them are at least partially summarized in the workshop reports or synthesis. We have also included a paper on mineral exploration and community relations written by two participants at the conference, Ian Thomson and Susan Joyce, as it is very relevant to the issues that were discussed.



## Preface

The past few years have seen a marked increase in exploration and mineral development activities by local and multinational companies in the countries of South and Central America. At the same time, attention has been increasingly focused by local and international environmental groups on the fragile eco-systems and local communities of the region. In particular, it is frequently argued that local communities receive all of the costs but few of the benefits of large mining projects. As a result of this enhanced awareness, governments and companies need to ensure that mining development is sensitive to local community issues, making a real and sustainable contribution to economic development.

This report contains the main findings of a conference on “Mining and the Community” hosted by the Government of Ecuador and the World Bank in Quito, Ecuador in May 1997. The principal objective of the conference was to bring together representatives from all interested stakeholder groups—local communities, mining firms, national governments, NGOs, academics, and international organizations—to discuss the current state of the relationship between mining and the community. It was intended to present existing problems and solutions as well as point the way to new solutions.

The conference was organized around four main themes of particular relevance to the interaction of the mining sector and local communities. These were legal and consultative issues, indigenous peoples, economic benefits and costs, and social benefits and costs. Plenary sessions were held for each theme to present an overview of the situation and the most important problems. These were followed by workshops in which participants developed practical approaches and solutions through the use of case studies. The conference ended with a roundtable in which representatives of each of the main stakeholders put forth their position with respect to the development and operation of large and medium mines.

The main emphasis of this report is that the nature of the relationship of a large mining operation and the community has changed for a number of reasons, each of which has its own political and policy implications. First, technological improvements have dramatically reduced the size of the workforce and, consequently, the multiplier effects of the expenditures of employees. The implication is that the main sources of benefits to the local community have decreased considerably. Second, the rights of indigenous peoples and local communities are being increasingly recognized around the globe. For the mining industry, this means that consultation has become a right of the community and that traditional customs and values must be considered in the decision-making process. It also suggests that the move from consultation to participation in decision-making is the next logical (albeit difficult) step in the evolution of mine-community relations.

Third, with the rapid globalization of the mining industry, conflicts between mining companies and local and indigenous communities are likely to increase, not diminish. Hence, there is a great need to increase the knowledge and expertise in this area. Finally, many economic, social, cultural, and environmental effects will depend on the characteristics of the mine and the community, which should be a starting point for any investigation.

The report proposes recommendations for policy and, most important, further research on the relationship between mining and the community. In particular, there is a need for innovative solutions as well as documentation and dissemination of what is succeeding (or has succeeded) and why.

Finally, we would like to mention that this work could not have been undertaken without the support and funding of the Government of Ecuador and the Canadian International Development Agency.

## **Acknowledgments**

These proceedings were coordinated by Gary McMahon, consultant to the Industry and Mining Division of the World Bank, who is grateful to the speakers, discussants, and participants of the "Mining and the Community" conference for their input, both written and verbal. The Government of Ecuador and Government of Canada also provided invaluable help in financing this conference. Antonio Bermeo of PRODEMINCA, Ecuador, was particularly helpful in the organization of the conference. Many members of the World Bank's Industry and Mining Division played key roles in organizing and conducting the conference, in particular, Craig Andrews, Liliana Cruz de Kostner, Dianne Langham-Butts, Peter Van Der Veen, and Gotthard Walser.



## Abbreviations and Acronyms

BHP	Broken Hill Propriety
CBO	community based organization
CDMM	Community Decision-Making Model
COMECOM	Council for Mutual Economic Assistance
CVRD	Companhia Vale Rio Doce (Brazil)
EIA	Environmental Impact Assessment
FUNAI	National Indian Foundation (Brazil)
GDP	gross domestic product
GNP	gross national product
ICMS	Unified Tax on the Circulation of Goods and Certain Services (Brazil)
IENIM	Industry and Mining Division of Industry and Energy Department (now Energy, Mining and Telecommunications Department), World Bank
ISWB	industrial social welfare benefits
MEDIVAC	Medical Evacuation Service
NGO	non-governmental organization
ODA	Official Development Assistance (UK)
PGC	Programa Grande Carajás
PNC	People's National Congress (Guyana)
PPP	People's Progressive Party
RDC	Regional Democratic Council (Guyana)
RTZ-CRA	former name of Rio Tinto (U.K.)
SIDA	Swedish International Development Agency
SWAPO	Southwest Africa's Peoples Organization
UN	United Nations
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WMC	Western Mining Corporation (Australia)



## **Mining and the Community: A Synthesis**

**Gary McMahon, Consultant, World Bank**

### **I. Introduction and Description of Conference**

The past few years has seen a marked increase in exploration and mineral development activities by local and multinational companies in the countries of South and Central America. At the same time, attention has been increasingly focused by local and international environmental groups on the fragile eco-systems and local communities of the region, an interest heightened by recent incidents involving mining operations. As a result of this enhanced awareness, governments and companies need to ensure that *mining development is sensitive to local community issues, makes a real and sustainable contribution to economic development, and does not leave a bitter and costly environmental legacy for future generations.*

The sharing of experiences and the latest research concerning these issues between countries and regions is essential. The Government of Ecuador and the World Bank, with financing from the Government of Canada, held a conference on Mining and the Community in Quito, Ecuador in May 1997. The principal objectives of the conference were: (a) a diagnosis of the various problems associated with mining and the community; and (b) to propose practical approaches and solutions to the problems or conflicts identified.

The conference was attended by over 200 participants from governments, private mining companies, indigenous communities, non-governmental organizations, representatives of local communities, international organizations, and academia. The 29 speakers included 4 representatives of indigenous communities, 5 from national governments, 4 from local communities, 6 from mining companies, 2 from environmental NGOs, 2 from international organizations, and 6 from academia.

The conference was organized around four main themes of particular relevance to the interaction of the mining sector and local communities. These were legal and consultative issues, indigenous peoples, economic benefits and costs, and social benefits

and costs. Plenary sessions were held for each theme to give an overview of the situation and the most important problems. An example from East Asia was given to highlight some of the issues. These were followed by workshops in which participants developed practical approaches and solutions through the use of case studies. An additional workshop was held on management practices and the community. The conference ended with a roundtable in which representatives of each of the main stakeholders put forth their position with respect to the development and operation of large and medium mines.

In this paper we will present the main points of discussion at the conference with respect to legal and consultative processes, economic benefits and costs, social benefits and costs, and management practices. As indigenous issues and environmental concerns cut across all of these themes, they will not be dealt with separately but included in each theme. The paper ends with a brief conclusion and recommendations.<sup>1</sup>

## II. Legal and Consultative Processes

In the past the situation with respect to legal and consultative processes was characterized by conference participants as being very limited to non-existent. Nevertheless, developments were perceived as moving quickly and in a positive direction. In many countries the general situation has improved considerably and consultations have become much more structured.

Although there is a tendency to separate the issues of consultation and legal processes, the increasing reality is that the rules and topics for consultation are legislated. Moreover, the content of the consultation, whether prescribed by law or not, is at least partially determined by the content, clarity, and general acceptance of existing legislation.

The main issues in consultation are: (i) when does the consultation process begin and terminate; (ii) who is party to the consultation; (iii) when does consultation become participation; and (iv) what are the topics for consultation (and participation). The nature and content of the discussion of these issues is usually very much circumscribed by the legal situation with respect to: (a) availability and access to information; (b) land tenure; (c) decentralization of government authority and revenue; and (d) the existence or not of a parallel or rival legal system based on traditional values and customs.

Not so very long ago the questions on consultation had easy answers. The mining company negotiated with the central government over the amount of royalties and taxes

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<sup>1</sup> While all of the discussions and presentations that took place at the Quito conference contributed to the ideas and viewpoints in this paper, a particularly strong debt is owed to the reports prepared by the chairpersons of the five workshops. These were Alyson Warhurst—Consultative Processes; José Miguel Sánchez—Legal Aspects and the Rights of the Community; Alberto Pascó-Font—Economic Benefits and Costs; Meredith Sassoon—Social Benefits and Costs; and Thomas Hentschel—Management Practices and the Community.

and security of property. A few years ago environmental considerations were added to the list, often with community participation. Now the situation is much more complex and varied across countries. For example, in Vietnam the traditional model still holds sway, while in Colombia consultation must take place before a concession is granted and exploration begins. In the Philippines it is advisable that a company continually consult with a large number of different governments, community and religious groups, and NGOs. One speaker showed 12 slides of names of different stakeholders with whom his company felt it was important to consult for a mining project in the Philippines.

While far from universal the consultation process is moving towards a cradle to grave (or exploration to closure) system. This general demand by the communities is largely accepted by the major mining companies, although less so by the juniors. One of the main complaints of communities is the resistance of junior companies to formal consultation processes, as they wish to avoid a costly procedure given the small likelihood of actually finding an exploitable deposit. Legislation requiring consultation before the granting of a concession, as in Colombia, is one way to resolve this problem.

Similarly, it is now widely accepted in principle, if less so in practice, that the local community is part of the consultation process, and that the discussions must go beyond environmental effects and into the social, economic, and cultural benefits and costs. These changes are being driven both by factors close to the mining industry, such as pressures from domestic and international NGOs, and exogenous factors, such as the general move towards greater decentralization of government responsibilities. Efforts by international organizations, such as the United Nations and International Labour Organization, to recognize and extend the rights of indigenous communities have also played an important role in shaping the agenda.

The legal right to access the information necessary to make informed decisions is also widely accepted. However, such information must be in a way that is understandable to the local community, which is typically not the case for technical studies. As emphasized in the presentation of one company's experience in Venezuela, it may often be necessary to use oral communication.

The most contentious areas in the future are likely to be the issues of land tenure and the related conflict between national law and traditional customs and values. Most indigenous communities do not distinguish between surface and sub-surface land rights, and accordingly believe that they have a veto right over mining projects in their ancestral lands. On the contrary, the national legislation of almost all countries gives right to access for mineral exploration and development.

Even when there is no opposition in principle to a mining operation, indigenous communities are demanding compensation far above what they have received in the past. Bolivia's new mining code attempts to deal with both of these problems. First, minerals are divided into strategic and non-strategic, with local communities having much more power over the development of the latter. Second, there is a minimum profits tax on

mineral production, which goes directly to the departmental level as soon as the product is exported.<sup>2</sup>

Finally, many workshop participants spoke of the increasing demand to move beyond consultation to participation of the local community. Participation means that the local community is involved directly in the decision-making process of the firm, through, for example, representation on the Board of Directors. It is not clear that many mining firms are ready to accept such a development, but, more importantly, it is not clear that the communities are ready to take the step. In many cases (and this is also true for consultation) communities lack the capacity to undertake effective participation. Accordingly, it will be necessary to build up the necessary skills and knowledge base. It is not improbable that in five to ten years the cry for community participation will be as loud as that for consultation is today.

### **III. Economic Benefits and Costs**

Historically, the mining industry has been an important source of foreign exchange, tax revenue, and employment in developing countries. Conference participants emphasized, however, that in the last two decades the employment contribution of medium-sized and large mines has become less and less important, significantly changing the balance of benefits and costs at the local level. This development has had a profound effect on the relationship between a mining operation and the local community and is one of the most important factors behind the rethinking of mining and the community.

The foreign exchange and tax revenue generated by a mining operation has usually gone (and continues to go) to the central government. Concerns about Dutch disease or the natural resource curse aside, these revenues benefit the macroeconomy and usually have little impact on the host community.<sup>3</sup> Given that, at the national level, it is increasingly uncommon for large mining operations to have significant employment and related multiplier effects, it is even more important than before that governments get their "fair share" of the mining rents. Especially in unsophisticated economies, these rents may be the only significant benefits accruing to the host country from a mining operation.

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<sup>2</sup> A Bolivian department is similar in relative size to a state or province, although they have a much smaller share of resources and corresponding responsibility. Recent decentralization, however, has greatly increased the power of the departments.

<sup>3</sup> Both the natural resource curse and the related Dutch disease are linked to the boom and burst cycles which often accompany natural resource exploitation. While their validity is often disputed among researchers, it is generally agreed upon that they are the result of bad macroeconomic policy rather than the creators of a bad macroeconomic situation. See McMahon (1997) for a recent discussion of the natural resource curse.

As noted, new large mines usually do not generate much employment, with the exception of the construction phase, although it can be important in remote areas. For example, at the Yanacocha gold mine in Peru, the largest in South America, a work force of less than 100 people produced US\$ 300 million of gold in 1996. Moreover, most of the employment in large mining operations is high-skilled and often beyond the capabilities of the local work force. Just as important, a small number of employees means that the multiplier effect caused by an increase for local goods—especially food, recreation, and housing—has also suffered a large decline relative to historical levels. Conference participants noted that the decline in employment and the associated multiplier effects is the main reason why local communities often prefer (or at least are more tolerant of) labour-intensive artisanal mining over medium-sized and large mines, despite the inefficient, heavily-polluting nature of the former.

Nevertheless, there can be large infrastructure improvements associated with the construction of a large mine. For example, with regards to the Yanacocha mine, it is believed that the benefits from tourism to this attractive but previously difficult to access area are much greater than the direct benefits of the mine. However, improved infrastructure in remote regions, largely populated by indigenous peoples, can often bring an influx of undesired settlers, as has happened along the transportation corridor to the Carajas mine in Brazil.

Historically, mining companies have often provided services to the local community, such as schools, health facilities, piped water, and even housing. Given the reduced number of employees, there is a tendency to move away from the provision of these goods, except in remote regions, or to only provide them to the families of company employees. Perhaps the most contentious issue in the privatization of the Linden bauxite mine in Guyana was the desire of the new owners to be relieved of the responsibility of most of these so-called industrial social welfare benefits.

Mining can also generate important upstream and downstream linkages. The extent of such benefits will usually depend on the sophistication of the local and national economies. For example, in the Abitibi region in northern Canada a local industry has developed to supply inputs into the mining process. In other countries, for example Bolivia, most of the inputs are imported and the output is all exported.

In the end, the question asked by the local community is very simple: What is in it for us? Despite vast improvements, mining is still not a clean industry and even the most environmentally friendly mine is going to have some environmental costs. Moreover, there are almost always social costs to bear, as will be discussed further in the next section. Most of the recent discussion has been centered on new formulas for sharing the fiscal revenues, as discussed in the last section, although in some countries—for example, Chile and Brazil—considerable movement has been made in the development of capital goods industries to supply the mining sector.

Whatever fiscal regime is in place, the economic and environmental benefits and costs of a mining operation to the local community will largely depend upon a number of

characteristics of the mine and the community. Among the key variables in determining these benefits and costs are: (1) the size of the mine; (2) the origin of the firm owners, as multinational firms usually use technology which is environmentally friendly, although it may not generate much employment relative to the amount of capital; (3) the age of the operation, as recent vintage mines are generally much more environmentally friendly than older mines; (4) the stage of operation; (5) the size of the community; (6) the remoteness of the community; and (7) the proportion of the community's (or affected area's) population which consists of indigenous peoples.

For example, the economic (and social) impact of a relatively small mine located near a major center will be easily absorbed. It will also be easy to monitor its activity from an environmental perspective. Alternatively, a large mine in a remote area will usually have significant economic (and social) impacts, especially if there are indigenous communities in the area. The development of the infrastructure will also likely result in environmental (and social) impacts far beyond the direct effects of the mining operation.

In sum, even without the increased awareness of and emphasis on environmental and social effects of mining operations, changes in mining technology by themselves would have likely resulted in demands from local communities for a new relationship with mining companies. While new technologies have reduced the economic costs to the local community of a mining operation, they have also reduced the benefits significantly. Accordingly, for the mine and community to coexist in a peaceful manner, new methods of bringing a greater share of the benefits to the local area need to be developed.

#### **IV. Social Benefits and Costs**

The social implications of large mine development have displaced the environmental concerns at the fore of the public debate on mining investment as a result of three quite separate developments. First, the technology used is now much more environmentally friendly, and it has become generally accepted that new mining operations must use best practice techniques. Second, the large expansion in exploration expenditure outside of traditional mining areas—often in response to changes in national mining laws—has meant that a much larger proportion of new investment is occurring in remote areas, often largely settled by indigenous communities following traditional lifestyles. Third, there is a greater international acceptance of the intrinsic value of indigenous cultures, in contrast to the assimilation rhetoric of the recent past.

The traditional social problems associated with mining communities are likely as old as the first large scale mining operations—prostitution, alcoholism, violence, and unhealthy working and living conditions. Recently, however, a second group of problems—centered on conflicts with indigenous communities, destruction of cultural values, and land invasion—is receiving just as much or more attention. While these are certainly not new problems, the movement of mining into ever more remote areas and the

growing acceptance of indigenous cultures as genuine alternatives has increased the sensitivity to and prominence of these issues.

The “corridor” problem of remote mine sites was alluded to in the last section. For example, it is estimated that the 80 meter wide and 890 kilometer long transportation corridor constructed from the Atlantic Ocean to the Carajas mine in Brazil has created an area of influence of 300,000 square kilometers. The resulting social, cultural and environmental problems are likely unparalleled in recent times for construction of a route to a mining site. It must be emphasized, however, that many of the problems would have been greatly reduced if the federal government had not given fiscal and credit incentives to induce in-migration.

There are often many social benefits that accompany a new mining operation. These can be much more important than the social costs, especially in regions with a history of mining. Large mining operations usually provide schools, health facilities, recreation areas, and even housing. In remote areas many of these benefits are often shared by the entire community, not just the families of the mine’s employees. The higher incomes generated by the mine can also result in better health and education. All of these benefits may be limited, however, if there are only a small number of employees. In this regard, some conference participants put the emphasis on support to improve the efficiency and environmental performance of small scale mining, which, if undertaken properly, could provide many more benefits for the local community.

When it comes to the resolution of social problems, there are rarely simple solutions that can be applied. Each community has its unique characteristics and must be dealt with individually. Hence, for mining companies social impact assessments are quickly becoming the rule rather than the exception. The challenge is to find qualified personnel, with a strong understanding of mining issues, sociology, and anthropology, rather than to turn geologists into overnight social experts.

Social impact assessments will not solve the problems by themselves. There is a need for mining companies (and national governments) to create a climate of trust and cooperation with local community representatives. When a local community lacks the skills necessary for effective negotiation and understanding of the issues, a third party may be needed to act as a mediator, although care must be taken to ensure that it represents the community’s interests and not its own agenda. In the medium-run, however, there is a need for proactive support on the part of national governments and international organizations in order to ensure that there is a balanced negotiating capacity between the local community and the mining company. In particular, training and information must be provided to local communities so they can effectively interact with mining companies and national governments. Preparation for mine closure is another issue on which communities will likely need substantial support.

As noted in the previous section, except for very small communities, large mines rarely bring substantial employment to the local area, so the benefits must lie elsewhere, usually in the social sphere. Hence, there is an emphasis on the provision of various

services, often through the creation of special funds, as discussed in the next section, and the mitigation of social costs. In remote areas, this may entail flying in workers so that a permanent community is not established. In general, it means that practices which hinder the preservation of traditional cultures and values are not tolerated in a growing number of countries.

## **V. Management Practices and the Community**

The emphasis in this section will be on assistance from a large mining company to a community, either directly or through a foundation. Although, in the context of best practice, many of the issues discussed in the previous section were also analyzed in the workshop on management practices and the community, the case studies centered on the mechanism and performance of two foundations—Rossing in Namibia and Inti Raymi in Bolivia.

Conference participants emphasized that it is essential that consultation with all members of the community (not just the authorities) begin at the exploration stage and continue until closure. It is important that the company explain the entire mining cycle to the community. Proper consultation can help to avoid the creation of false expectations, especially in the exploration phase, as communities rarely understand the difference between exploration and exploitation. Consultation, coupled with baseline studies, are also necessary for the company to understand the community and its unique socio-economic characteristics. In the case of the Rossing Foundation, three different communities have been identified, each of which receives its own special treatment.<sup>4</sup>

Similarly, the design of a beneficial assistance program or a well-functioning foundation will depend heavily on a thorough knowledge of the community's characteristics, goals, and values. Whether through direct company assistance or a foundation, the emphasis should be on projects that empower the community. Many such projects will take the form of building human capital to eventually work in the mining industry, develop alternative income sources, or, most important, prepare for mine closure. The assistance program must be transparent and participatory. The company or foundation should work directly with the community or with intermediaries selected by the community. The temptation to go through an unwanted intermediary is particularly to be avoided in the case of indigenous groups, who usually have qualified representatives of their own with whom to negotiate.

The choice of a foundation or direct assistance program will depend on the characteristics of the company and community. On one hand, a foundation has the advantage that it can solicit funds from other sources and be managed with an arm's-length relationship. On the other hand, it can become divorced from the other operations

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<sup>4</sup> The three "communities" are the mine employees and their families, the inhabitants of the two nearby cities, Arandis and Swakopmund, and the citizens of the entire country of Namibia.

of the mine and lose importance in the eyes of management. The effectiveness of the Inti Raymi Foundation is said to have suffered due to high staff turnover.

There are a number of other characteristics that a successful assistance program or foundation must have. It should have a dedicated staff with a clear budget, for example a percentage of after tax profits. Support of the highest levels of management is essential for the program to be taken seriously by the rest of the staff. It also can be unwise to allow such expenditures to be used as a tax deduction, as the situation can then arise that the company sees the assistance as akin to charity and, moreover, it is given all the credit for projects that are, in essence, partially or totally funded by the government. Nevertheless, it may be necessary to allow some percentage of the expenditures as a tax deduction, especially in the case of a foundation, which is attempting to attract other funds.

In conclusion, a foundation or other forms of assistance from the mining company to the local community should be looked upon as an entitlement of the community, not a gift from the company. The behavior and procedures that are likely to lead to a successful and harmonious relationship between a mining company and the local community are the same ones that are likely to lead to a successful foundation or productive community assistance—extensive consultation, transparency, participation, and a commitment to do the job thoroughly and properly.

## **VI. Conclusions**

The nature of the relationship of a large mining operation and the community has changed for a number of reasons, each of which has its own political and policy implications. First, while technological improvement have greatly reduced negative environmental impacts, they have also dramatically reduced the size of the workforce and, consequently, the multiplier effects of the expenditures of employees. The implication is that the main sources of benefits to the local community have decreased considerably. Accordingly, other forms of compensation should be considered, such as the provision of infrastructure for the community as a whole (and not just the mine) and programs to develop skills and alternative forms of income. The amount of any such compensation must be based on the profitability of the mine.

Second, the assimilation of indigenous peoples or culturally diversified local communities is no longer seen as desirable or inevitable, as was the general perception in the not very distant past. Moreover, the rights of indigenous peoples and local communities in general are being increasingly recognized around the globe. With respect to the mining industry, this has meant that consultation has become a right of the community and there is a growing consensus that it should start before exploration begins and end with mine closure. It has also meant that traditional customs and values must be taken seriously in the decision-making process, and the mining company cannot simply hide under the umbrella of the national legal system. Finally, it also suggests that

the move from consultation to participation in decision-making is the next logical (albeit difficult) step in the evolution of mine-community relations.

Third, with the rapid globalization of the mining industry, and the large absolute and relative increases in mining investment in developing countries, conflicts between mining companies and local and indigenous communities are likely to increase, not diminish. Hence, there is a great need to increase knowledge and expertise in this area. In a conference held in Washington in March 1997 on "Mining in the Next 25 Years," it was clear that top executives in the mining industry believe that proper management of the relationship with indigenous peoples and local communities is going to be one of the biggest challenges in the next ten to twenty years.

Finally, many economic, social, cultural, and environmental effects will depend on the characteristics of the mine and the community. A good starting point for the analysis is to document the likely effects of a mining operation, given different mixes of characteristics such as size and age of mine, size and type of community, remoteness of community, type of mineral and extraction process, and so on. Of course, this is only the beginning as there will always be subtle and not-so-subtle differences between two communities which appear quite similar at first glance. However, the use of such a typology, if well-designed and well-researched, should be of assistance to persons undertaking socio-economic and environmental impact assessments, and, at least, help them ask the right questions.

The general conclusion of the conference is that all roads lead to multidisciplinary analysis. Whether starting from consultative processes or economic benefits and costs, the discussants, speakers and workshop participants inevitably analyzed the issues with reference to a mix of social, cultural, economic, indigenous, legal, and environmental arguments. This did not suggest, however, that it was not useful to approach the issue from a variety of different starting points; it did mean that useful solutions will have to take into account the repercussions on all the key variables, with different situations demanding a different emphasis.

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## **Consultative Processes: Workshop Report**

**Professor Alyson Warhurst, Director,  
Mining and the Environment Research Network (MERN), University of Bath, U.K.**

### **Introduction**

The purpose of this paper is to report on the conference and workshop discussion relating to consultation in minerals development, not to provide a definitive appraisal of consultative processes. Nonetheless, the following review should contribute to the ongoing debate about the nature of the consultation process, principally by virtue of the different types of participants involved. The conference involved both local and remote 'stakeholders' of mining projects. It included representatives from industry, national and local governments, international organizations, NGOs, academia and affected community groups.

The paper is in four sections:

1. Conference Presentations: Highlights of Pertinent Points
2. Consultative Processes: Case Studies from Guyana and Venezuela
3. Discussion and Compilation of Views on the Issues Raised Concerning 'Consultative Processes'
4. Conclusion and Implications

### **1. Conference Presentations: Highlights of Pertinent Points**

Before turning to analyze the conclusions and recommendations of the specific workshop on Consultative Processes, it is important to highlight some relevant findings from four significant presentations during the plenary sessions. These are summarized below:

**i) Dr. Fernando Loayza, Subsecretary of Mining and Metallurgy, Bolivia—  
'Legal and Consultative Processes'**

Dr. Loayza emphasized, with regard to the relationship between legal issues and consultative processes, that problems between the mining industry and local community were rooted in four principal causes:

First, there exists conflict about ownership on account of the existence of separate legal regimes for surface and sub-surface land entitlements. Legislation usually privileges the mining company's rights through entitlements to expropriate land and establish easements. In contrast, indigenous communities make no distinction between surface and sub-surface entitlements since they consider that 'people' and 'land' constitute a material and spiritual unity. In this regard, property rights may need to be revised in law so as to establish and respect more 'integrated' ownership regimes. Dr. Loayza argued that there is a need for consistency in the legal framework, and that this was a pre-requisite to successful consultative processes at later stages in the project.

**Second**, legislation usually restricts local community participation to environmental matters, while local communities may in fact be demanding greater public participation overall, particularly in relation to the economic and social benefits of mining projects.

**Third**, imbalances can be created if there is limited access to information about the environmental strategies and options of mining companies and a lack of knowledge about the customs and traditions of indigenous peoples. These can lead to distrust and difficulties in communication.

**Fourth**, remote communities are often alienated from the central government, which can lead to pressures on mining companies from local communities to undertake social development projects. This, in turn, can result in high-impact but short-lived development projects, which herald a new set of problems. As a consequence, government policies are needed to enhance consultative processes and to promote: (a) greater transparency; (b) better communication; and (c) the decentralized distribution of revenue. For example, the New Mining Code of Bolivia (1997) endows local communities with rights in law to receive the benefits of mining within the area of jurisdiction of their municipality. These benefits are to be transferred through the distribution of a percentage of revenue from taxation.

**ii) Gladys Jimeno, Indigenous Affairs, Colombia—'Legal and Consultative Issues'**

Of prime importance here was the fact that the right of indigenous peoples to be consulted *prior* to the granting of mineral development rights is enshrined in law. The relevant articles<sup>5</sup>, translated (unofficially) from the Spanish, are:

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<sup>5</sup> See Gobierno de Colombia (1996).

### ***Consulta Previa—Prior Consultation***

According to Article 4, prior consultation is a fundamental collective right of the indigenous peoples, and a procedure that allows the State to fulfill its constitutional duty to guarantee their ethnic, cultural, social and economic integrity, and their effective participation in their national, regional and local life, and in the decisions that affect them, through the exercise of their collective and fundamental rights within their special jurisdiction.

From Articles 5b), c), e), and f), some of the objectives of prior consultation are:

- To consult with peoples, authorities and indigenous organizations on their own assessment, convenience or inconvenience and point of view about the particular measure, project or activity under consultation, with regard to how it affects their ethnic identity and participation in the project.
- To reach agreements or consensus with the traditional authorities, *cabildos*<sup>6</sup>, and the organizations of the indigenous peoples involved on the terms on which to carry out the measures, projects, or activities.
- To adapt the measures, projects or activities to the intercultural demands that their application, execution and running impose on the affected indigenous territory, and to apply the agreed measures to adequately deal with the foreseeable or probable impacts to prevent, mitigate, or control them socially, culturally and environmentally.
- To guarantee the participation of the indigenous peoples in the decision making, planning, adjusting, execution, evaluation, and monitoring of the relevant project or measure, and the equal participation in the benefits that may derive from it.

Supporting details are included in the following articles:

#### ***Article 1.—Previous consultation to indigenous peoples***

No administrative or legislative measure, project or public or private activity, likely to affect in a fundamental and direct way either means or life systems of the indigenous peoples, their territories or the natural resources situated within them, will be allowed to progress if previous consultation (as laid down in this decree) with the indigenous peoples involved has not progressed, according to what is established in the National Constitution, International Instruments, and other norms guaranteeing the rights of indigenous peoples.

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<sup>6</sup> *Cabildos*—special public entity responsible for legally representing its group and exercising the duties determined by the law and their particular normative system. The members are elected indigenous people and recognised by a localized faction in a particular territory. They must be members of the community that elects them.

**Article 2.—Definition of previous consultation**

Prior consultation is a fundamental collective right of the indigenous peoples, and a procedure that allows the State to fulfill its constitutional duty to guarantee their ethnic, cultural, social, and economic integrity, and their effective participation in their national, regional, and local life, and in the decisions that affect them, through the exercise of their collective and fundamental rights within their special jurisdiction.

**Article 3.—Nature of previous consultation**

The process of prior consultation with indigenous peoples is of a public, specific, and compulsory nature, which is carried out through an inter-cultural and inter-institutional procedure, as defined in the present decree and in harmony with the particular normative systems of the indigenous peoples involved.

**Article 4.—Individuals or parts intervening in previous consultation**

Prior consultation will take place with the participation of all the representatives of all the appropriate entities connected to the measure, project, or activity in question; this means the participation of all the legal representatives or executive delegates of the companies or entities interested, of the traditional authorities and/or *cabildos*, and of the representatives of the relevant indigenous organizations, the latter in agreement with what is determined by Article 7 a) of this decree.

**Article 5.—Objectives**

Of particular interest is Article 5—Objectives which requires that the traditional authorities, *cabildos*, and indigenous organizations be informed about the characteristics of the national, international, regional or local measures, projects or activities that may affect them.

According to both Gladys Jimeno and Cristina Echavarría (University of Anitoquia, Colombia), these lawful rights regarding prior consultation are unique in Latin America.

**iii) Cristina Echavarría, University of Anitoquia, Colombia—‘Social Benefits and Costs’**

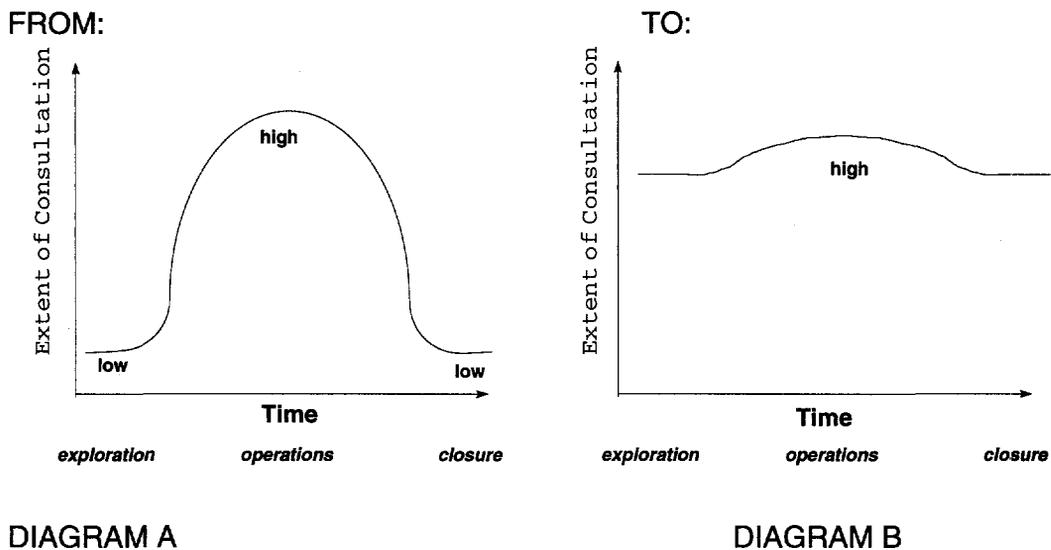
This speaker emphasized the different perspectives, concerns and time horizons of indigenous groups in the consultative process. She urged respect and understanding in the context of both the relatively progressive Colombian law relating to prior consultation with indigenous communities, discussed above, and the relative poverty and lack of education of these groups.

**iv) Dr. Stephen Davis, Group Geographer, Western Mining Corporation, Australia—‘Consultation and the East Asian Perspective’**

Amongst other issues discussed, Dr. Davis contributed two key issues to the debate about consultative processes:

- a) The importance of compiling detailed lists of all possible local and remote stakeholders of new mineral projects and painstakingly consulting them from the outset.
- b) The need for consultation to occur at both earlier and later stages in the mineral project relative to what has traditionally been the case; that is, consultation needs to move from an almost exclusive focus on the operational period to give equal or similar treatment during the exploration and closure phases. (See Figure 2.1.)

**Figure 2.1: Phases of Mineral Project Development**



**2. Consultative Processes: Case Studies From Guyana And Venezuela**

The workshop began with two highly illuminating presentations. These are summarized in turn below:

***i) Consultative Processes In Guyana's Mineral Sector: Bauxite And Gold<sup>7</sup>***

This concisely presented project addressed the negative social repercussions of inadequately designed and implemented processes of consultation and the difficulties involved in trying to 're-engineer' retroactive changes to the consultation process once power relations have been established, negative impacts have taken place, and 'bad feeling' has been generated.

These points were presented by focusing on two case studies of consultative processes in Guyana. These were Omai Gold Mines Ltd.—owned by Golden Star, USA, 35 percent; Cambior, Canada, 60 percent; and the Government of Guyana, 5 percent—and a bauxite mine run by Minproc, an Australian company, following the privatization of Linmine. Evidence to date suggests that gold mining has not only failed to deliver promised social benefits, but it has also been associated with the dislocation of indigenous peoples and disruption of their small scale farm, fishing, and hunting activities. Omai's official policy is not to encourage the development of communities within the mine vicinity. However, it is involved in the provision of a range of community services, including the maintenance of access routes, fortnightly malarial services to neighboring communities, and free access to emergency services. Omai also contributes significantly to Guyana's growth in GDP—as much as 20 percent of annual growth in recent years is due to the mine.

Canterbury confirms that it was not until after the 1992 change in government that the content of the Minproc management and the Omai Mining Agreement were made available to the public. He further argues that local creole and indigenous communities played a minimal role in the consultation process over the privatization of the bauxite management and the opening of Omai Gold Mines Limited. The Guyana government alone conducted the negotiations with both Minproc and Golden Star Resources, effectively excluding relevant businesses, labour unions, and NGOs. This lack of consultation caused distrust about the Minproc management contract and the Omai Mining Agreement—for example, concerning higher than expected percentages of expatriate managers and the high salaries and benefits of the senior management of both companies. Another example concerned a leaked curriculum vitae of a manager with a track record for the 'successful' closure of mine operations, which generated fear of a shut down rather than the company making a 'turn around'.

As a consequence, an umbrella NGO, through a series of community meetings, undertook a socio-economic analysis of the effects of the privatization of Linmine. Canterbury also argued that although Golden Star Resources carried out a social impact study, it was undertaken from a corporate, and not a local community, perspective. Of particular concern was the way in which 'pork-knockers' (informal miners) claims were

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<sup>7</sup> This case study was written and presented by Dennis Canterbury, University of Guyana, Georgetown, Guyana and Saint Mary's University, Halifax, Canada.

apparently not respected, the lack of any effort on the part of the government to educate communities about implications of the gold project and the failure to establish “mechanisms to allow the Amerindian leaders to meet periodically with officials of the state and the gold mining industry to ventilate concerns and require information on local or national developments. The focus between miners and indigenous peoples will undoubtedly be the urgent need for the settlement of outstanding land claims, a mechanism for consultation, as well as direct development benefits from some royalties and other payments accruing to central government from interior-based industries”. (Forte, 1995)

Public pressure then became, apparently, a key factor in a new phase Canterbury calls ‘consultancy/collaboration,’ which led to a number of partnerships with Amerindians in areas such as agriculture, mining, social services, water supply, revegetation and scrub clearing, health, senior citizen care, transportation, and a number of self-help projects, in exchange for five percent of gross earnings paid to village councils, in some instances, and donations to the Regional Administrative Authority’s programs in Mahdia. However, Canterbury argues that the way this was undertaken was *ad hoc* with the lack of any coordination mechanism to ensure the region as a whole benefited. The ‘co-option’ of local power holders, such as the village leaders and local councils, was an important element in this process. Canterbury’s interpretation of the failure to address the rights of the Amerindian peoples and the negative environmental impacts on their communities of the different small, medium, and large scale mining operations in their valleys and lands, relates to the Government failure to establish an appropriate legal context and set of legal obligations regarding rights and responsibilities. This situation developed, Canterbury argues, in spite of the existence, since 1992, of a Ministry for Amerindian Affairs. Moreover, the legal context for land-rights dispute resolutions in mining areas lies within the Mineral Act. The Minister responsible for mining has the authority to make regulations concerning the settlement of disputes, and the Commissioner of Geology and Mines has the power to make final and binding decisions. In 1997, a document was collaboratively developed entitled: “Government Policy for Exploration and Development of the Mineral Resources of Guyana,” which established a new legal framework for small scale mining enterprises.

In summary, Canterbury argues that if local and indigenous peoples have no role or rights in law from the outset in a consultation process involving only companies and the state, then it is difficult to address concerns in a retrospective way. It becomes inevitably a piece-meal or *ad hoc* process that neither allows for informed negotiation and participation in the development process or protects their fishing and farming lands from encroachment, particularly by non-indigenous legal and illegal small and medium scale miners.

**ii) Walking On An Unnecessary Tightrope Or Building A Common Future In Southern Venezuela<sup>8</sup>**

This presentation, extensively illustrated by slides, was a powerful description of a Placer Dome project in Venezuela, entitled: 'Minera Las Cristinas'. The presentation addressed: 'How consultation and participation are integrated into project definitions and implementation'. Davidson first described an area centered on intensive and chaotic small-scale gold mining activity since the mid-1960s. By 1986 the authority for reorganization of this mining area was transferred to the state company which terminated many contracts and concessions and began a process of relocation of effected small-scale miners. In this context Placer Dome won an international tender for rights for a joint venture at Las Cristinas with the state company in 1991.

In 1994 Placer Dome initiated various technical, environmental, and social feasibility and appraisal programs and from the outset focused on local aboriginal and creole community concerns and needs. A community focused participatory 'Assessment Process' was undertaken as a result to consider and develop a collaborative small-scale mining project that essentially involved: training and capacity building, accumulation of economic benefits on the part of the participating miners, and good relations based on participatory organizational structures between the company and the Association of Miners. Davidson argues that the ingredients of success, so far, seem to be:

- starting together from the outset
- the fact that the local community was able to organize itself as an Association
- recognition and respect for each others concerns and needs
- patience and a long term commitment of personnel and financial investment to an open-ended participatory process
- willingness to be innovative, take calculated risks and learn new skills on the part of both company and community versus accepting the status quo or taking the path of least resistance
- the use of specific tools and mechanisms to promote a participatory process from the outset: base-line socio-economic and other surveys, key informants, group meetings (small and large), newsletters, photographs, and videos

**3. Discussion And Compilation Of Views On The Issues Raised Concerning 'Consultative Processes'**

Following a series of questions of clarification, particularly addressed to Jeffrey Davidson, concerning the dividing lines between 'participation,' 'collaboration,' and 'co-

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<sup>8</sup> This case study was prepared and presented by Prof. Jeffrey Davidson, Minera Las Cristinas, Venezuela.

option,' and the extent to which Placer Dome was putting in place an 'advance guard,' as it were, to facilitate the foreseen future large scale expansion of the operation, we established a 'participatory' process within the group to enhance debate and give all participants a say.

The group of 20 workshop participants were not all bilingual, and they represented quite different perspectives across a spectrum of governments, international organizations, national and international mining companies and associations, academics, community representatives, and NGOs.

First, we divided into focus groups and, using a 'card system' each person wrote in ten to fifteen words a key generic issue arising from the presentations that, from their own perspective, they wanted to see discussed. Then the chairperson, in collaboration with the group, categorized the issues to define an agenda for discussion.

In summary, one set of issues to be discussed concerned the **concept of consultation**, its characteristics, the attributes of successful consultation and its goal. For example, where are the dividing lines between negotiation, consultation and participation.

The second set of issues concerned the **operationalization** of consultative processes. That is whether they should be implemented from the outset (or exploration stage), include closure, be ongoing or iterative. Issues were raised about continuity, particularly with regard to the transition from a junior company's exploration phase to a major mining firm's development and production program. One participant suggested that the consultative process itself should differentiate between the distinct roles of different sets of stakeholders at different stages of the project. Other issues related to: the importance that the consultative program with relevant and informed communication be maintained, the business ethics surrounding the company's objectives, and the need for openness from the outset in order to establish confidence. Clear land rights in place from the outset and trust were considered crucial ingredients for a successful consultative process.

Having clarified and captured these key points, the remaining discussion focused on the importance of definitions. In particular, the focus of the discussion revolved around the differences between processes of consultation and processes of participation.

There were two groups of participants with different and fiercely held convictions, which we agreed to be irreconcilable in the time available. These were:

- a) Consultation should take place within a sound and clear legal context that defines the conditions for the development of the mineral project. Most importantly, the ownership of both surface and sub-surface land rights should be clear and the company should be able to proceed from that basis. It is not feasible for the future of mining to first give title rights, and second renegotiate these at a later date. Consultation takes place as a process managed by the company, as a means to both inform the local community, collect their views, and receive their inputs. Under this definition, the company retains the right to make unilateral and binding decisions protected by the laws that provide their ownership rights over

the deposit. Consultation under this definition involves only the company and community, **not** the state. It is after the company 'decision' that the process of participation might begin. This involves the possibility of joint decision making and activities, again involving only the company and community, with no explicit role for the state. It is fundamental within this definition that surface and sub-surface property rights need to be consistent. Significantly, within this definition, the consultative process was considered a **private** process.

- b) Consultation should be defined, as in Colombian law, (see section 2.1 ii above), as prior consultation. This means that consultation must be **prior** to the granting of a concession, that is prior to being given the 'green light'. Moreover, such consultation is a right of the community and a responsibility of the state. It should involve company, community, and state, and is referred to as 'Public Consultation'. 'Private Consultation' involves the company and community only.

#### 4. Conclusion And Implications

While it may have been possible with more time to have accommodated both these interpretations within a more comprehensive and agreed framework, in this workshop it was not possible.

Therefore, as a contribution from the Chair, I would like to offer two additional perspectives on our deliberations about consultative processes.

- a) The first is drawn from Roberts (1995), which represents an important treatise on the theme of public involvement throughout both the consultation and participation processes. It is not feasible for the future of mining to give title rights and then renegotiate them later. Roberts states that the rapid rise in influence of public involvement has often led to confusion surrounding its definition, and that of the related but different terms like 'consultation' and 'participation'. He suggests the following: "*Public involvement* is a process for involving the public in the decision-making process of an organization. This can be brought about through either *consultation* or *participation*, the key difference being the degree to which those involved in the process are able to influence, share, or control the decision making. While *consultation* includes education, information sharing, and negotiation, the goal being better decision making by the organization consulting the public, *participation* actually brings the public into the decision-making process. Typically, public involvement has focused primarily on *consulting* the public, with no options for greater involvement. The process has relied heavily on education and information sharing. However, a growing number of organizations have begun experimenting with public participation in the form of joint planning and delegated authority, where the public actually controls and directs the process and the ultimate results."

- b) In 1993, the World Bank declared that funding for projects would be contingent on the inclusion of a public consultation process in the project development. Therefore, it may be fruitful, in conclusion, to refer to its *Participation Sourcebook*, and in particular to chapter 1, entitled 'What is Participation'. (See World Bank (1996).)

The following quotations from The World Bank Participation Sourcebook may therefore be useful:

“...we recognize consultation and listening as essential *prerequisites* for participation, because, no matter how good the sponsors and designers are at consultation and listening, what is still missing is *learning* on the part of the people in the local system. A person who is being ‘listened to’ or ‘consulted with’ does not learn nearly as much as the person doing the listening and consulting.”

Of particular interest in the Sourcebook is the reference to reaching, engaging and empowering the poor:

“...although we argue that all stakeholders must work collaboratively to advance development projects, we recognize that different stakeholders have different levels of power, different interests, and different resources. For these reasons, we also recognize that arrangements are needed to level the playing field and enable different stakeholders to interact on an equitable and genuinely collaborative basis.”

moreover, since “...the poor face many barriers on a number of different levels that prevent them from having a real stake in development activities. Reaching and engaging the poor requires special arrangements and efforts by the sponsors and designers that go *beyond* those used to involve government officials and other relatively powerful stakeholders in participatory processes.”

Finally, in its focus as building the capacity of stakeholders to participate, the Sourcebook suggests the concept of a continuum along which the poor are progressively empowered:

“On one end of this continuum, the poor are viewed as beneficiaries—recipients of services, resources, and development interventions. In this context, community organizing, training, and one-way flows of resources through grant mechanisms are often appropriate. Although much good work has been done in this mode, the provision of benefits delivered to people in this way may not be sustainable in the long term and may not improve the ability of people to act for themselves.

As the capacity of poor people is strengthened and their voices begin to be heard, they become ‘clients’ who are capable of demanding and paying

for goods and services from government and private sector agencies. Under these changed circumstances, the mechanisms to satisfy their needs will change as well. In this context, it becomes necessary to move away from welfare-orientated approaches and focus rather on such things as building sustainable, market-based financial systems; decentralizing authority and resources; and strengthening local institutions.

We reach the far end of the continuum when these clients ultimately become the owners and managers of their assets and activities. This stage ranks highest in terms of the intensity of participation involved. A question we asked ourselves while preparing the *Sourcebook* was, how can we support and prepare poor people to own and manage assets and activities in a sustainable manner? In part, we found out that the more poor people are involved upstream in the planning and decision making process, the more likely they are to own a development intervention, contribute to it, and sustain it; this alone, however, is not sufficient.

Constraints exist at the policy level that impinge on the rights of people to organize, access information, engage in contracts, own and manage assets, and participate fully as members of civil society. Efforts are needed, therefore, to create an enabling policy environment that allows all stakeholders—especially poor and disadvantaged ones—to be part of the definition we noted at the outset. They too must be enabled to: ...influence and share control over development initiatives and the decisions and resources which affect them.”

**In conclusion**, this workshop demonstrated the importance and benefits of combining experience and different views on the subject of consultative process. It demonstrated:

- advances on land and title rights as enshrined in Bolivia’s new Mining Code (1997)
- advances in consultative processes involving indigenous communities and their rights for prior consultation as enshrined in Colombian law
- a ‘paradigm shift’ in the conceptualization and implementation of consultation and participation processes on the part of two major mining companies, with reference to the respective presentations of Stephen Davis and Jeffrey Davidson of Western Mining Corporation and Placer Dome, respectively
- a process of capacity and confidence building within community groups as a response to more progressive consultative and participative process
- a willingness of all partners represented at the conference to participate in frank and fair appraisal of progress to date and in defining future directions for both research and action.

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## **Legal Aspects and the Rights of the Community: Workshop Report**

**José Miguel Sánchez, Universidad de Chile, Santiago, Chile**

The workshop began with an explanation of the objectives pursued and the methodology to be used. This was followed by the presentation of the case study: La Escondida, Chile by Jorge Zeballos, Manager of Corporate Affairs from Minera la Escondida. The presentation was commented on by Héctor Gómez, a lawyer from the municipality of Antofagasta. After questions on the presentations, there was a discussion about the issues in general. The audience was then broken into three working groups to discuss two or three specific issues. Each group reported its findings to the larger group, followed by a general discussion.

### **Case Study: La Escondida, Chile**

La Escondida Mine is in the Andes, 3150 meters above sea level, 170 kilometers southeast of Antofagasta. With a population of 250,000, the community is the one most affected by the mine operations because there are no communities in the immediate vicinity. The mine started operations in March 1991. It is owned by BHP of Australia (57.5 percent), Rio Tinto of the UK (30 percent), Japan Escondida Corporation (10 percent), and the International Finance Corporation (2.5 percent). BHP operates the mine. Its currently known reserves will last 50 years. During 1996, it produced 792,000 tonnes of copper concentrate and 49,000 tonnes of refined copper. This figure represents 27 percent of Chilean and 8 percent of global copper production. La Escondida also accounted for 21 percent of total foreign investment in the period 1974–1996 with a total investment of US\$ 2,022 million. In 1996 La Escondida accounted for 12 percent of total Chilean exports, while mining as a whole accounts for 48 percent of total Chilean exports and copper alone represents 40 percent. The importance of La Escondida at the national level is clear. At the local level the impacts are mostly felt in Antofagasta because the miners and their families live in that city. At the mine site there is only a camp for miners to live in during their shift. In terms of employment, both direct and indirect, La Escondida generates approximately 12 percent of all jobs in Antofagasta. Its impact is

also reflected in other variables that have increased substantially since 1991 in Antofagasta, such as the number of house mortgages, motor vehicles, airline flights and passengers, and square meters built for industrial purposes in the city. It is hard to isolate the effect of La Escondida in the growth of these variables since the region as whole has been growing during this period. This growth includes the development of other mining projects, although not nearly as large as La Escondida. Nevertheless, no one can deny that La Escondida has an important effect in the growth of all these variables.

In order for La Escondida to operate, it is subject to legal instruments and processes. Each one of these represent situations in which the community directly or indirectly can express, through elected representatives, their opinion about the project. The main legal requirements are the following :

- Mining rights which are concessions for exploration and exploitation of a mine. They are granted by the civil courts.
- Water rights for exploration and use of water. They are granted by an agency that reports to the Ministry of Public Works.
- Rights to cross or use public or private pieces of land (easements) to build access roads to the mine site or to install a power line or a water transportation system.
- Seaside concessions if the project has a port. They are granted by an agency that reports to the Ministry of Defense.
- Environmental Permits. The most fundamental one is the requirement to submit to an Environmental Impact Assessment (EIA).
- Indigenous Law. Its goal is to recognize, protect and develop the indigenous groups in the country. It establishes a Fund for land and water for indigenous groups and it establishes geographical areas for their development. It does not grant special rights for indigenous groups (different than for any other group of citizens) for them to oppose a development (industrial) project.

In all these legal situations, communities can express their opposition to a particular project. In some situations—for example, the EIA—there is an explicit stage of public participation. In others the channels of participation are much more indirect, as in the cases when an elected authority has to grant a right or permit for the project.

In this context La Escondida recently faced the situation of trying to find additional sources of underground water supplies for their operations. The case involved an indigenous community that would be affected if La Escondida started to pump water out of an aquifer under consideration. The effects would have been mostly on the vegetation of the area. The presentation focused on how the firm decided to modify the original project to minimize its potential impacts and how the compensation package for the community was designed.

In his comments, Héctor Gómez described how the people of Antofogasta felt the impact from La Escondida. After highlighting the enormous impact the project has had on Antofogasta and the demands placed on basic services, which have to be provided by the city, he argued that the region and the city in particular do not receive a fair share of the benefits of the project. He asserted that the fiscal treatment of the sector is such that the local governments do not capture a sufficiently large share of the wealth generated in the region.

### **General Discussion**

It was made clear that the workshop was not about La Escondida. Hence, the idea was not to criticize or applaud what they have done but rather to use the case as an illustration of the kinds of issue that are involved in this topic. Nevertheless, both presentations were very important for the subsequent discussions. First, the case study made people focus on the legal instruments that communities have to exercise their rights. Special attention was paid to explicit openings, designed specifically for public participation—for example, the EIA system or other consultation mechanisms that exist in some countries, like Colombia. It also raised the question about what is the proper way, in terms of fiscal management, to transfer to the local communities a “fair” share of the benefits of the project, as the consensus of the workshop was that this is a requirement for acceptance of the project by the local communities.

### **Legal Instruments and Procedures for the Communities to Exercise their Rights**

The first issue analyzed was related to the legal instruments that are or should be available to the communities in order that they can exercise their rights. The issue of what are the minimum requirements and the procedures for their application was also addressed.

In most countries, environmental legislation provides instruments for environmental management. These include environmental impact assessments, management plans for particular resources, and remediation and prevention plans, all of which allow for participation of concerned citizens or communities.

For these instruments to be an effective way for the communities to express their rights, they must be in the public domain. Every concerned member of the community should have the right to consult the relevant documentation. In addition, the information about the project must be relayed in a proper format and in sufficient detail. It has to be understandable by the general public and delivered in a way that it is accessible to all concerned or affected. Access to all the volumes of an EIA is often not enough for the communities to become informed. A summary, written in an understandable way for the community, might be necessary, and in some cases, this may still not be enough. For some communities, oral communication may be the best method. Therefore, the mining

company should be prepared to organize public meetings to explain the expected impacts from the project. In some cases, the law requires the publication of a summary of the EIA in the written media, such as a local newspaper. However, communities in isolated areas might not receive newspapers on a regular basis, if ever. They might also lack access to television or radio. There is a role for the state in assuring that the information is available in proper form and quantity for the communities.

Another requirement to make these instruments an effective way to express the rights of the communities is to ensure that the application procedures allow for long enough periods for the communities to study and analyze the information, either by themselves or by external reviewers acting on their behalf with their consent. In addition, the procedures defined have to contain and define explicitly the mechanisms by which any comment or concern is appropriately weighted and considered. This does not mean necessarily that all the concerns and requests have to be solved in the manner desired by the communities, but rather that the mechanisms by which society resolves any possible conflict has to be clearly defined. Moreover, all of the actors involved—the state, the communities and the firms—should abide by this decision-making process.

In sum, the procedures and opportunities for community participation—usually included in legislation related to instruments for environmental management—must be designed in such a way that they lead to real participation from all interested parties, particularly the state, the communities, and the firms.

Another class of useful instruments are those that have a constitutional basis like “recourse for protection” (*recursos de amparo*), which can be filed when the project causes or has the potential for damage. However, it is not always the case that these legal recourses can be applied in an expeditious way. The judicial systems in Latin American countries are usually overloaded with work and the resolution of legal complaints takes longer than desirable. The consensus was that it is highly advisable to reinforce the use of this type of legal recourse.

A third class of legal instrument by which communities can exercise their rights is through the enforcement of international agreements or resolutions to which the countries have subscribed—for example, ILO resolution 169. It would be helpful if countries which have subscribed to international agreements would ratify and enforce them.

### **Other Legal Means to Exercise Rights on the Part of the Communities**

The role of information is fundamental during the whole life cycle of the project, not only at the beginning. Thus, mining companies must establish permanent communication channels with the communities from the exploration phase until closure of the site. This communication must be conducted with the local authorities, recognized as such by the community. Communities may have their own way of generating their authorities, and this has to be respected by the other parties in the dialogue.

Another legal issue is the need to give a proper legal status to any agreement that may result from negotiations between the company and the community, especially when compensation packages have been agreed upon. This serves a double purpose. On the one hand, it gives the community a legal safeguard to enforce the agreement. On the other hand, it also protects the company against future additional (unwarranted) requests on the part of the community. The fact that in many cases the negotiations, agreements, and compensation arise out of voluntary processes (not required by law) raises the need to have a way of sanctioning the agreements reached from a legal perspective.

### **Fundamental Rights for the Community to be Protected, Reinforced or Promoted**

The general perception exists that communities have the right to a fair share of the benefits of any mining project located in their geographical area. The argument is that local communities should be able to benefit from any economic activity that is developed in the region. The main questions are as follows: What are the best mechanisms to transfer economic benefits from the activity to the local communities? Is it through the general tax system administered by the central government or through the charge of royalties and patents that go directly to the local governments? What is the “fair” share (usually as a percentage of the profits) that should revert to the local communities?

Another basic right of the communities is to have the information in adequate amounts and proper format. Without it, the other rights or participation channels lose much of their usefulness. The right to be informed must carry with it the necessary provisions to protect any commercial information that may be strategic for the company to compete in the market.

And lastly, the community has the right to participate in decisions that affect them throughout the whole life of the project.<sup>9</sup>

### **Recommendations**

The analysis of the case study and the subsequent general discussion has generated the following recommendations:

- The states that have subscribed to ILO Resolution 169 should ratify it and include its principles in their legislation.
- Exchange of information regarding successful and failed cases and experiences should be promoted. Forums such as this meeting certainly help start thinking about the issues.

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<sup>9</sup> There is a close link with this point and what was covered in the workshop on consultative processes, as the participation process may start with a consultation process to the community.

The agenda for future research must include the revision of the mechanisms to determine the share of the benefits to be reverted to the local communities. Similarly, the mechanisms used to bring the determined share to the local communities must also be re-examined (for example, national tax system, royalties, patents).

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## **Economic Costs and Benefits for a Local Community: Workshop Report**

**Alberto Pascó-Font, Senior Researcher, GRADE, Lima, Peru**

This document has two objectives. First, it suggests some criteria to analyze the economic costs and benefits that a mining company generates on a local community; second, these impacts are evaluated in particular situations. The discussion includes environmental impacts as long as they can be economically quantified, but it only refers tangentially to social impacts.<sup>10</sup>

### **The Case Study**

In order to motivate the discussion the workshop began with a presentation by John Dobra on “A Feasibility and Economic Analysis of a Hypothetical Mexican Gold Mine”.<sup>11</sup> This mine was to be located near a relatively important city in Baja California.

The presentation analyzed a mine with an average grade of 0.06 ounces of gold per ton and a stripping ratio of 3.1. Total gold reserves are 1.5 million ounces. Because all the gold ore is oxide, the project does not use heap leach technology but a standard carbon in leach process. The presentation discussed two alternative mill sizes, one that produces 108,000 ounces per year and another that produces exactly double that amount. Under the first mill the mine will operate for 12.5 years while in the second case it will run for 6.25 years.

This project’s rate of return is slightly over 15 percent per year, which is a barely acceptable rate for the industry as a whole. Although Mexican wages are well below American wages, the combination of higher labor and corporate taxes leads to no significant cost differences in gold production in the two countries.

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<sup>10</sup> Social impacts were addressed in detail in the workshop on social benefits and costs.

<sup>11</sup> Director of Natural Resources Industry Institute and Associate Professor of Economics at the University of Nevada, Reno.

The paper uses an input-output methodology to estimate the total direct and indirect impact that the mine would have in the area. Assuming that the USA Regional Impact Multiplier System could be used to estimate the impact in the Mexican case, the author concludes that under the small mill scenario, over its lifetime the mine will generate an income of US\$ 1.34 billion with a personal income impact of \$US 103 million. A substantial part of those impacts will be generated during the construction phase. During that phase the mine will generate an estimated 1,290 jobs, will have an output impact of US\$ 207 million and will generate almost US\$ 16 million in personal income.

Given that this is a relatively small operation located quite near a major city, the mine will have important impacts that could be absorbed by the region but the costs will be small. The mine will only hire 178 employees in the small mill scenario; they will live in the nearby city. The city could easily absorb their housing demands and other requirements. It is likely that they are not going to have important impacts on relative prices, although wages of mine employees will be higher than the local average. Moreover, as the mine is close to a city, enforcement of safety and environmental regulations is relatively easy. It is likely that the mine will have little environmental impact, especially as it is located in a desert area.

In the analytical framework below, this case would fit into that of a small mine located near a relatively large population area. In this case the positive impacts of the mine will surely surpass the costs, and it is highly likely that it will generate a net benefit to the local community.

### **Summary of General Discussion**

A generalized perception exists that mining has important macroeconomic benefits for developing countries, as a source of both fiscal revenues and foreign exchange. Potentially, a mining company can also be an important generator of indirect employment and encourage several linkages with other economic activities. For these reasons, developing countries often compete to attract foreign mining investors to their countries. However, there is also a perception that whatever the macroeconomic benefits that a particular mining investment could have, most of the costs it generates (especially the environmental ones) are borne at the local level. Moreover, it is not clear that the benefits outweigh the costs at this level.<sup>12</sup>

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<sup>12</sup> Although the increase of mining exploration in the Latin American region suggests that the macroeconomic importance of mining export revenues as well as fiscal revenues is going to increase over time, this paper only addresses the benefits and costs that a mining company has on the economy of its surrounding communities. This paper also does not address the benefits and impacts that artisanal or informal miners could have on local communities. Although this is a relevant topic for several countries in the region, where informal-artisanal gold mining is an important source of jobs, the nature of the relation is completely different and another conference would be needed just to discuss this relationship.

The basic premise underlying the analysis below is that even at the local level, the benefits that a mining investment can generate for the local community can outweigh its costs if appropriate institutional arrangements and procedures are in place. Otherwise, mining investment can be devastating at the local level. For example, if there is no proper environmental legislation, mining companies (especially the small ones) could behave irresponsibly, generating severe damage on other local economic activities such as agriculture and fishing.

The economic relationship between a mining company and its surrounding communities is so complex that several variables need to be taken into account before attempting to evaluate its costs and benefits. For example, migration induced by a mining operation to a particular region could be either positive or negative, depending on the characteristics of the local communities, the stage of the operation, and so forth. A priori it is not possible to assert that mining-induced migration is beneficial or detrimental for a community; its impact will differ from case to case. A suggested, and probably incomplete, list of some of the main variables that should guide the analysis is as follows.

- i) **Size.** First of all, the size of the mining company is an important variable to take into account. It is more likely that big companies will be economically, environmentally, and socially viable than smaller firms. Although there seems to be evidence that relatively small mining operations can be both profitable and environmentally sound, it is not clear that this same argument can be applied to their “social viability”. It is likely that there are some economies of scale that will make it difficult for small mines to handle adequately potential conflicts with their surrounding communities. Conversely, large mines can hire professionals specialized in designing local community strategies to mitigate any potential costs as well as to maximize the benefits that a mining operation can have for the community.
- ii) **Origin of Capital.** Although the size of the mining company is strongly related to its nationality, this latter variable by itself can play an important role. OECD mining companies usually have higher social and environmental standards than local companies in developing countries or companies coming from the former East Block.
- iii) **Age of the Operation.** The age of the mining operation seems to be a key factor to explain its potential economic impact on local communities. The older the mine, the more likely the company’s technology is obsolete in environmental terms, and the more likely there are negative social impacts on the local community. On the contrary, the younger the operation, the more likely that the technology that it uses is environmentally friendly and sensitive to social concerns and local community worries.

iv) **Stage of the Operation.** The economic impacts of a mine differ dramatically depending on the stage of operation; that is, exploration, construction of the mine facilities, exploitation, or closure.

Although it may be crucial in terms of the future relations between a mine and the local people, the exploration phase is usually one of low impact. Nevertheless, the exploration phase can provide some benefits to the local community, including the following: (1) Income generated due to the purchases of mining concessions; (2) Important information generated about the site on issues such as hydrology, geology, soil quality, etc; (3) Improvement in infrastructure; (4) Increased demand for some local goods and services; and (5) Provide a limited number of new job opportunities. Exploration can also generate costs depending on the way in which the newly discovered information is handled, its impact on local prices due to speculation, and the potential disruption of some local social patterns.

Of all the phases of its life cycle, usually the construction of the mine plant or concentrator, as well as the basic infrastructure required by the project, has the largest impacts on the local community. While the direct effects of these impacts are short term, the indirect effects can last for a long time and could be potentially very disruptive. People that have migrated during mine construction could remain in the area afterwards, unemployed and a potential source of problems. Other social problems such as prostitution, which are likely to increase during construction, will not immediately disappear upon completion.

Mine exploitation usually has long-term impacts, at times magnifying what was already observed in the exploration phase. In this stage local communities usually benefit from improved infrastructure and facilities (communications, electricity, sewage), more employment, and greater demand for local goods and services. The mine can also be an important source of revenue for local governments and provide training to workers. However, it can also completely dislocate the local economy by changing land use and price and employment patterns. Negative environmental effects with direct economic consequences may also arise in addition to the health, social, and cultural impacts.

Finally, the closure of the mine has qualitatively different impacts than the previous phases. For example, reclamation has the benefit that land could be restored to its original purposes. Moreover, if appropriately administered, the resources that the mine generated may have been used by the local people to launch new activities that could help to diversify and improve the local economy. The improvement of human capital either by better access to education or through abilities learned on the mining site could be potentially useful in other fields. The costs in this stage, however, can also be very disruptive and could extend far beyond the point at which the mine ceased to operate, especially those related to environmental liabilities. Without the foresight to retrain for new occupations,

closure could result in a drastic reduction in local revenues and incomes, and significant family disruption for the local people.

v) **Community Characteristics.** The size of the community (in terms of population, degree of urbanization and economic diversification before the mining operation takes place), its degree of remoteness with regard to other economic centers, and its cultural composition (especially if there are indigenous inhabitants) are very important in determining the economic impact of a mining operation. Obviously, a small mining operation will have a different economic impact on a small, remote agricultural community than it will have on a large city with a diversified economy.

The following table proposes a cost and benefits matrix to analyze the economic impact of a mine operation on a particular community, taking into account some of the above variables.

**Table 4.1: Benefits and Costs Matrix**

<i>Type of Enterprise</i>	<i>Type of Community</i>			
	<i>Small/Remote/Undiversified</i>		<i>Large/Diversified</i>	
	<i>Benefits</i>	<i>Costs</i>	<i>Benefits</i>	<i>Costs</i>
New				
Small				
Large				
Old				
Small				
Large				

This matrix can be useful to check the different benefits and costs of particular mining operations, depending on the values of each variable. The results will be sensitive to the special characteristics of the country where the investment is taking place. For example, in countries like Peru, Ecuador, or Bolivia, where the state has a weak institutional presence in remote areas, it is likely that small communities will lack most basic services such as water, health services, education, sewage, and adequate housing. Under such circumstances, and for example, in the case of a relatively small formal mine and a small, remote and undiversified local community, the following benefits can be identified: (1) an increase in the availability of health services; (2) an improvement in road infrastructure and access to the community; (3) an increase in both direct and indirect employment opportunities in the area; (4) an increase in the demand for other goods and services such as foodstuffs; and (5) training and education of local people in

skills that could be of potential use in other activities than mining (such as construction). The magnitudes of the benefits in this case will depend on the size of the mining operation. As long as the mine is large, it has to build local housing for its workers. It is likely that it will also provide other facilities such as sewage, electricity, and basic schooling. Local people will also benefit from these facilities. However, if the mine is quite small, probably only health services and a small number of houses will be provided.

Nevertheless, even a small operation can have important impacts on the price of some local goods (foodstuffs, land) and services. However, it is likely that the main costs that a mine of this size could generate on the local community are environmentally related. For example, tailings are often thrown into rivers and other water sources, affecting their use for other traditional economic activities. There is also generally little regard for issues such as job safety, noise, or dust. Nevertheless, this does not need to be the case. Appropriate state legislation and supervision can force small mines to behave in an environmentally sound manner. To this end, it is recommended that a share of the mine proceeds be distributed between the local and regional governments and not only accrue to the central government. In this way, local people could be an important instrument to enforce proper behavior on the mine. Moreover, these resources at least partially compensate them for the costs imposed by the mining operation and can be used to promote local development and economic diversification in preparation for and well ahead of the closure of the mine. It is also recommended that local people be trained to manage this flow of new resources and benefit as much as possible from them in a sustainable manner.

In examining another combination of variables within the matrix, the benefit and cost balance will change dramatically. For example, a small mine operation near a large city will have few costs and mainly provide benefits, (as in the case study above). A city is more capable of taking advantage of the employment opportunities that a new enterprise offers as well as provide an important share of the goods and services that it demands. Enforcement of environmental legislation is much easier and the social impacts are diluted because of their relatively small size. The benefits regarding the improvement of infrastructure as well as the provision of some social services that were present in the previous case, however, are likely to be lost in this case because they will probably not be needed or insignificant.

Finally, the above matrix could easily be extended to incorporate other issues, such as the degree of local population that are indigenous peoples or the stage in which the mine is currently working.

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## **Social Benefits and Costs: Workshop Report**

**Meredith Sassoon, Mining Environmental Management Consultant, U.K.**

### **Case Study: The Carajas Iron Ore Project<sup>13</sup>**

In 1967 the state-owned Companhia Vale Rio Doce (CVRD) began a joint venture with U.S. Steel to develop a deposit of an estimated 18 billion tons of high quality iron ore located in the Carajas highlands in the eastern Amazonian state of Para, Brazil. Construction of the US\$ 2.9 billion mining project started in 1982 and was completed in 1986 with full production in 1987. In addition to the mine installations, the operation involved the construction of an 890 kilometer railway from Carajas to Sao Luis, port facilities, road construction, and the development of a new town. The project provides direct employment for 4,200 people. In 1989 tax revenues were US\$ 38.4 million and royalty payments US\$ 9.6 million. The life of the project is estimated to be 400 years.

In late 1980 the Grande Carajas Program was established as a broad, multi-sectoral, federal government regional development initiative to stimulate physical occupation and economic development of Eastern Amazonia. The Carajas-Sao Luis rail corridor, though only 80 meters wide, actually involves a much larger and ever expanding area of influence of some 300,000 square kilometers. Over the past few decades this area has been subject to significant occupation by a combination of small subsistence farmers, gold prospectors, loggers, large cattle ranchers, and land speculators. By 1980 1.1 million people were already residing in the municipalities cut by the Carajas railroad, with the figure growing to 1.5 million by 1985.

Small farmers, prospectors and loggers followed the construction of major penetration roads carried out by the federal government, agricultural 'colonization' projects and the discovery of gold at Serra Pelada. Large ranchers and land speculators were attracted to the region by generous federal government fiscal and credit incentives. Together these

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<sup>13</sup> The case study was written and presented by John Redwood III, Environment Department, World Bank.

policy-driven interventions have had a substantial adverse environmental and social impact, including land concentration, agrarian conflict, severe public health problems, rapid extensive deforestation and associated loss of biodiversity, and localized degradation of soil and water resources.

CVRD built and operates a modern town at Carajas, current population of about 6,000. The company assumes all the local government functions. Indirect employment and income generation impacts have meant that whole townships have grown up to provide a wide variety of goods and services to the mine workers. The 1991 demographic census showed that the total population of the municipality of Parauapebas, adjacent to Carajas, was 85,000. The social problems caused by the urban and rural development around the Carajas mining complex comprise inadequate housing and urban infrastructure, prostitution, public health difficulties, incidents of violence, including agrarian conflicts, and problems affecting the Amerindian communities. In addition, in major centres such as Sao Luis and Maraba, entire new poor districts have sprung up where the level of formal employment among male adults is usually below 10 percent.

In 1982 it was estimated that some 4,500 Amerindians lived within a 100 kilometer radius of the Carajas project. In anticipation of the regional development due to the project, a special Amerindian Protection Project was prepared by the National Indian Foundation (FUNAI) and funded by CVRD. This included specific components such as land demarcation and protection, health, education, economic development projects, special protection measures for the nomadic and relatively unassimilated Guaja Indians, and administrative support for FUNAI. By the early 1990s the project's area of influence was estimated to include some 14,000 Amerindians, with more recent estimates indicating a population of 17,400 Indians in 24 reserves covering an area of 3.3 million hectares. All these indigenous groups have benefited under the Special Project with significant improvements in their conditions, especially in the two key areas of health and land demarcation.

The indigenous lands in the Carajas region have become increasingly coveted by prospectors, loggers, speculators and ranchers over the past decade and the potential impact of continued rural settlement and development and illicit logging are matters of serious concern. Under a new CVRD loan, US\$ 4.9 million has been budgeted for support to indigenous communities with specific actions including the provision of preventative health care and basic sanitation infrastructure; informal training and technical assistance for the development of forest management techniques as well as other self-sustainable economic activities; and assistance to FUNAI to complete the demarcation of Amerindian areas and protect the indigenous communities under CVRD's sphere of influence.

On the whole, indigenous communities have been reasonably successful in obtaining assistance from CVRD, using force when necessary by physically blocking the railroad. There have also been conflicts between CVRD and artisanal and small-scale miners who are summarily removed from the company's concessions. Competing claims have

recently flared up again in response to CVRD's reported discovery of another large gold deposit near Carajas. The complex land tenure system creates frequent conflicts among the local population in and around the Carajas corridor. Land values have been rising, encouraging speculation and stimulating in-migration.

Local Non-Governmental Organizations (NGOs) are playing an increasingly important role in the Carajas region, particularly those working with small farmers and landless rural laborers. The principal concerns of these groups are regional agrarian conflicts, the indirect social and environmental impacts of the Carajas project, pig iron production, and other major investments in the region. Some NGOs provide legal, health, vocational, and other support, while others are conducting research into sustainable development alternatives.

There can be no doubt that Carajas has had, and continues to have, an important economic and social impact on its immediate area of influence. CVRD has been a major source of direct and indirect employment, income generation and tax revenues. The project and associated investments have also strongly contributed to the large influx of poor migrants. While considerable progress is clearly evident in recent years, and CVRD continues to work in partnership with state and municipal governments to improve local living conditions, successfully combating rural and urban poverty remains a significant challenge.

### **Discussant: The Mining Quagmire: Communities and Companies and the Equitable Distribution of Social Benefits and Costs<sup>14</sup>**

#### ***Summary***

Mining activities are a clash of cultures with mining companies almost exclusively focusing on minimizing costs and mining communities almost exclusively focusing on maximizing benefits. The unequal relationship complicates matters because companies are perceived as having 'all the power to do as they like' while communities are judged 'incapable of deciding what is best for them'. The social interests of the communities and indigenous populations are overridden by the economic needs of mining companies. Communities are seen to be suffering all the negative impacts that mining causes, from irreversible environmental damage to acute health problems and the degradation of social conditions, while companies are seen to be reaping huge financial benefits. Even the jobs that mining development brings are short lived and seldom benefit the whole community.

The attention of communities, and NGOs working with them, is focused on the increasing number of problems that communities are facing as a result of mining development, the priority being the environmental impact. However, the communities' lack of information and expertise in these issues limits their capabilities to evaluate the

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<sup>14</sup> The discussant was Myriam Cabrera, CoDevelopment Canada.

risks. If a company produces an impact assessment survey as part of the statutory procedure, the community has no way of analyzing the data. Often the information is incomplete and the negotiations with the mining industry tend to be dominated by the interests of the industry.

Mining can create short- and long-term health problems, both for the miners and the community, which are often left to the mining companies to solve at a local level. The advantages of investments in health care are not always applicable in developing countries. Although companies have a vested interest in the well-being of their workers, in countries with an abundant workforce, there is usually no obligation and little financial benefit in paying for health costs.

The economic benefits are unbalanced. Both mining communities and companies focus on short-term advantages. Local communities rarely benefit from the taxes paid by the mining company to the central government and instead are beneficiaries of, at most, small scale social projects such as schools and clinics established by the company. The perceived view is that mining companies are taking millions of dollars worth of minerals in exchange for precious little. Communities and companies have to develop long-term strategies that will benefit both of them in the economic and social areas.

The impact that mining has on the community way of life, culture and traditions is also seen as an area of concern. Families are disrupted in the name of progress and communities are left with the mirage of a development and worsening social conditions. Indigenous populations have been particularly affected and their traditional ways of life changed without their consent. The diverse cultural backgrounds and styles of the mining communities and the mining companies are responsible for different conceptions, perceptions, ways of thinking, expectations and even negotiating techniques. The path can either be collaboration or confrontation and, historically, the second option has been predominant. If mining is going to develop in a socially responsible manner, this has to change.

The paternalistic approach of many mining companies, often supported by the government, means that they end up behaving like a surrogate government, providing services and assuming all the financial obligations. Ironically, mining companies acting as surrogate governments is considered to be a way of providing an equitable deal to communities, given that the latter are not getting their fair share of the wealth generated by the mining. However, companies tend to avoid any responsibility in dealing with local concerns and the implications of a mining development. Mining companies, so the argument goes, are not in the development business. There is a slow realization that it is only through the achievement of Sustainable Human Development that mining activities are viable and can prosper, and that the collaborative approach may be mutually beneficial. Proactive community investment programs can improve their overall performance and competitiveness.

Communities and companies see the need for a mechanism by which they can start bridging the gap that now separates them, allowing communities to take control of their own affairs. Consultation with mining communities in Latin America resulted in the proposal to formulate a Community Decision-Making Model (CDMM). The aim of CDMM is to promote a mutually beneficial relationship based on training programs, information exchange, and community networks. The main elements of the CDMM are the following:

- \* The understanding that the concept of community is an all-encompassing approach that takes into account the diversity of interests of affected parties.
- \* Corporate best practices are not undertaken by responding to moral persuasion, but that there is no doubt that they make good business sense.
- \* Communities have to be consulted during all stages of mining development and have to be part of all decision-making processes.
- \* An organized (trained and skilled) community will be able to participate more effectively in decision-making processes.
- \* Isolated communities, with no access to information networks, cannot make informed decisions.
- \* Corporations and individuals have an obligation to strive for socially responsible mining.
- \* Poverty cannot be eliminated by a single mine nor by the development of the whole industry but a socially responsible mining industry can significantly contribute to the alleviation of poverty.

### ***Background to Discussions***

The social benefits and costs of a mining project are often very difficult to establish as they can rarely be presented in a measurable or tangible form. The industry has a tendency to assume that the majority of social impacts that it will have in any given project area will be positive, usually based on quantifiable financial considerations. The perception is that by bringing money into the community, in the form of wages, compensation, royalties, and purchases of local goods, the over-riding impacts are beneficial. However, the perceptions in the community are often very different and, once the 'honeymoon' period is over, the dominant impression is that the project is imposing more unquantifiable social costs than quantifiable social benefits. The perceptions of government may then add a third dimension to this quagmire.

The topic of perceptions can cover every aspect of the social benefits and costs of a mining project, although they were too numerous to be discussed in the time allowed. However, it would seem that the two main mechanisms that drive these perceptions are:

- \* power distribution

- \* responsibility

The Workshop discussions were therefore based on these two topics, taking into consideration the following three questions that were posed by the World Bank:

- \* How should communities organize themselves?
- \* How can governments create a more effective presence in remote locations?
- \* How can international development institutions assist?

The Workshop delegates were divided into three groups to discuss these issues. A summary of the outcome of these discussions is presented under the headings of Communities, Governments, and International Development Institutions. The industry or companies were not included in the original questions and it is difficult to allocate them a specific role in many of the issues being discussed without them (or us) being branded as paternalistic. However, in the majority of cases development is industry led, with industry financial support, and industry initiating the community consultation process. This situation is recognized in many of the points raised though there is no specific reference.

## **1. Communities**

### ***Respect***

It was strongly felt that companies and governments need to recognize, understand, and respect the existing community values in all their dealings with the local people. They should be sensitive to cultural, political, and social structures and organizations within the community and not attempt to change them. It is not appropriate or helpful to either introduce new organizations or new organizational structures into an existing community because of a predetermined concept of how the community should be organized in order to communicate with the company.

### ***Strengthen***

There is a need for outside bodies to assist with capacity building within the community. This should include: (i) Helping with education regarding national and international recognition of indigenous rights related to mining and control over land in the bargaining process; (ii) Training in the negotiation procedures and techniques required to deal with international companies, and provincial and national governments; (iii) Support the efforts of the community to reach a consensus (or authoritative) decision on their needs, interests, and objectives; (iv) Strengthening the ability to disseminate information about project details, alternatives, and decisions to other members of the indigenous community; and (v) Develop and encourage the use of local expertise in environmental and socio-economic impact assessments.

***Diversification***

There is a danger with a large-scale project of the formation of a 'mine dependent community' that at the time of closure will completely lose its economic base. There is therefore a need for assistance in diversifying the economy of a region to support the community in the long term. One of the suggestions made for this diversification was support for small-scale mining. This is discussed in more detail in the next section.

**2. Government**

The role of government is seen as one of requiring effective consultation and/or participation between companies and the community as a condition for signing a mineral development agreement. This endorsement can come in the form of policies, legislation or direct support for the community involved. The issues discussed here are also relevant to international development institutions as they are often in a position to influence the formulation of legislative and governmental reforms via loan conditionality.

***Policy***

One of the discussion groups felt very strongly that government policy should support small-scale mining and that this should be linked to their general social policies. This decision was based on the fact that structural reforms in nearly every Latin American country include modernizing the mining sector by creating a positive economic and legislative environment for the large-scale, principally foreign mining industry. These reforms often discriminate against the existing small-scale mining industry.

It was felt that if the capital and access to appropriate technologies was made available to this sector, small-scale mining could be carried out in an environmentally sound manner. Proyecto Mollehuaca in Peru was cited as an example. The argument was that the level of employment and local spending that was generated by small-scale mining was more beneficial to the local community than large-scale, capital intensive mining. Support for small-scale mining can be justified by linking it to social policies designed to alleviate rural poverty and extend social benefits to marginalized populations.

***Legislation***

National legislation should be established to protect the interests of the local community and indigenous peoples and to recognize their rights to benefit from mining activities in their area. Many countries still do not recognize indigenous and local community rights.

***Support***

Government support is required at the national, regional, and local levels to strengthen the position of the community and provide a framework for the requirements, services, and the reciprocal rights for the area. They need to establish guidelines for development proposals and be prepared to negotiate for service delivery and financial support. Often the benefits of a mining operation go directly to the national government with little or

none being returned to the most affected communities. Governments also need to establish a mechanism for measuring social and cultural costs and benefits so that there is some quantitative base for negotiations.

### **3. International Development Institutions**

For the sake of convenience the title 'International Development Institutions' includes non-governmental organizations, international government organizations, international financial institutions, and other similar groups. The specific role of each of these groups was not identified in the discussions, and it was not felt to be in the remit of the workshop to establish responsibilities. There were a number of areas where it was felt that international development institutions could play a part in strengthening the benefits of mine development to a community.

#### ***Role***

International development institutions can play a part in ensuring that social, cultural, economic, and environmental impact assessments becomes a prerequisite for project development. They can also pressure governments into acting in a socially responsible manner. This could be achieved by placing conditions on loans to governments and encouraging governments to establish regulatory structures and guidelines for social benefits. They can also act as the bridge or coordinator between the community, the government, and the mining company, encouraging dialogue, facilitating meetings, and helping to ensure that the government does not shift all its responsibilities to the developer. It was felt that this latter role was more suited to non-governmental organizations rather than international agencies.

The World Bank and other similar organizations should establish methods of disseminating information about their policies and activities. This would enable communities to seek help and advice from the relevant agency and also to learn from other projects.

#### ***Best Practices***

These agencies should identify and establish international best practices for ensuring that the negative socio-economic impacts of a mining development are minimized and the benefits to the community maximized. They should also encourage research and development programs and help to institute pilot projects both for innovative mining and processing techniques and community support schemes. Part of this research should look for methods which can identify social-cultural impacts and convert these impacts into measures which can be integrated into a comprehensive benefit-cost evaluation of the project, along with the traditional economic and environmental impacts.

**Support**

International development institutions could help to foster the concept that mining projects must now be viewed in terms of shared, dynamic, and evolving notions of responsibility and that 'living documents' must replace a presumption of 'sanctity' of contract.

These institutions should support the creation of information networks for all relevant groups and take the necessary steps to ensure that the members of the communities have access to those networks and can participate in the information sharing. This may involve the provision of training, access to computers, and support for regional institutions that can provide these links. They should also facilitate more workshops and conferences like this present one (Mining and the Community), to be held at international, national, and regional levels, to facilitate dialogue between the relevant players.

**Summary and Conclusions**

There is always a danger in these situations of producing a 'shopping list' and I fear that in many ways that is what this Workshop achieved. However, the majority of items on this 'shopping list' deserve to be there and warrant further consideration. If the predominant current community perception is that mining operations create far more social costs than benefits, then the 'shopping list' has full justification as the majority of the items are related to communication. The paternalistic, and often patronizing, attitude of mining companies and governments to local communities means that the latter rarely play a central role in mine development—the power distribution is weighted against them. Community strengthening and support are pivotal to redressing this imbalance and this responsibility falls to the other players—the government, international development institutions, and the mining company.



# 6

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## **Management Practices and the Community: Workshop Report**

**Thomas Hentschel, MEDMIN-COSUDE-Projekt Consult, La Paz, Bolivia.**

### **Introduction**

The increased activity by international mining companies in Latin America is producing increasing criticism from ecological and indigenous groups. Mining activities are seen as an environmental, social and economic danger for communities located in the area influenced by the mining site. In response to such criticisms many mining companies are developing new ways of interacting with the local community. The purpose of this workshop was to critically analyze new methods of management practice with respect to community relations and explore elements of what might be considered “best practice”.

### **Outline and Methodology of the Workshop**

The workshop began with the case on Rio Tinto and Rossing Foundation, Namibia. In his presentation, Mr. Charles Kauraisa, President, Rossing emphasized the following points:

- short presentation of the characteristics of the case (profitability, employment, infrastructure, tribute)
- summary of the relationship between the company and the community
- consulting processes carried out with the community
- characteristics of the compensation funds (Rossing Foundation)
- handling of local rivalries
- company obligations in providing support to the community
- lessons learned from this case

Subsequently, the discussant, Mr. German Usnayo Veizán, presented his experiences as a member of the community, regarding the impact of Inti Raymi Co. (Bolivia) in the community. Emphasis was on the following:

- historic summary of mining in the region and of the implementation of Inti Raymi Company
- compensation for land
- knowledge of the communities regarding company activities
- extent and work of the Fundación Inti Raymi
- environment

It is important to mention that the two presentations had a subjective and opposite view. The first was from the point of view of the company (presented by its President) and the second one from the point of view of a community member (as the affected party). The presentations also represent the experience of two completely different cultures on different continents.

After the presentations, we proceeded to the workshop discussions. The two presentations were discussed first and then the general topic of the workshop. Two working groups were formed:

- the company group to analyze the topic and prepare proposals from the point of view of the company
- the community group to analyze the topic and prepare proposals from the point of view of the community

A summary of the conclusions from each of the two groups was presented and discussed at the plenary session. The conclusions were divided into general points, exploration phase, exploitation phase, closing, and recommendations of best practices based on the conclusions.

### **Case Study: Rio Tinto and Rossing Foundation, Namibia**

Independent since 1990, Namibia is a mining country with a population of just 1.6 million people. The mining industry contributes importantly to the national economy and, in fact, it is the leading sector for both tax and export revenues.

Rossing Uranium Ltd. has operated since 1976. The company exploits and processes uranium, whose only use is to generate nuclear energy. Presently, it generates 8 percent of the total uranium production in the western world. At its height in the 1980s, the company contributed almost 50 percent of the country's exports. Lately, the conditions for the uranium market have improved again, guaranteeing that Rossing, with its large deposits, will continue being an important company for Namibia well into the 21st century.

Rio Tinto, one of the most important international mining companies, is the largest shareholder of Rossing Uranium. Rio Tinto places great importance on a good relationship with the community. It recently set down its policy regarding this topic:

“A good relationship with the neighbors in each of the areas where the group works are fundamental for a long term success. Knowing that each local community is different, Rio Tinto’s policy is that each operating group should make efforts to understand and interact, in a constructive way, with the local communities and assist in their development”.

In the case of Rossing (Namibia) the company has defined community in three categories: (i) employees and their families; (ii) the neighboring cities of Arandis and Swakopmund; and (iii) the entire country of Namibia. The entire country is taken as a community due to the fact that Namibia has only 1.6 million inhabitants and the company recruits its employees from everywhere in the country. The policy and efforts of the company to establish and maintain good relations with these three communities are summarized below.

#### ***Employees and their families***

By the end of 1996, Rossing had 1,225 employees. The company has a non-racist and non-discriminatory policy with special support to formerly destitute persons. All the employees hold indefinite contracts and are affiliated to the “Mineworkers Union of Namibia”. The remuneration is good and includes an old age pension and medical insurance. Employees, 90 percent of whom are Namibians, have social benefits and housing. Foreign employees that leave the company, including those in senior management positions, are usually replaced by Namibians. The favorable working conditions and the integrated family-like environment makes the working situation stable, with few changes in personnel.

The company gives special emphasis to professional training. It offers internal and external professional training. In 1996 Rossing spent almost US\$ 1 million for these programs. In 1990, with the objective of training Namibian miners, Rossing donated almost US\$ 2 million to the country to build the Namibian Institute for Mining and Technology.

Rossing also pays a great deal of attention to communication issues, keeping the employees constantly informed about its activities, so that they can identify with the firm and be able to contribute actively to company development programs.

#### ***Neighboring cities Arandis and Swakopmund***

The Rossing Uranium mine is located in a desert region. When the project was established, there were no other economic activities in the region and it was necessary to look for workers in other regions of Namibia and provide them with housing. Rossing founded the city of Arandis, 12 kilometers from the mine. To comply with the

company's policy of keeping families together, dwellings were built under the concept of "good quality family housing".

The houses have solar heating, electricity, televisions, gardens for vegetables, and garages. To deal with health issues, two medical centers and a hospital were created. Also, three schools and colleges were built and furnished by the company. The integration of the families in their new homes and the development of community spirit was carried out by specialized staff (who spoke several of the local languages) by:

- special training programs for women on health, hygiene, horticulture, nutrition, modern life, etc.
- assistance to the family to help them adapt to their new environment
- creation of the Arandis Club with sports activities
- training of opinion leaders, including church representatives, teachers, businessmen, and women

In 1991, Rossing donated the city of Arandis to the Government of Namibia. Today, the city is administered by a municipal council independent from the company. After the donation it was recognized that the community remained very dependent on the company. Until that time the company had always solved the community's problems, so it continued its dependence on the company. This could be very dangerous, especially when the company closes its operations. The company recognized that its approach was too paternalistic and that it should concentrate more on involving the community in active participation and decision-making.

Almost 50 percent of Rossing's employees live in Swakopmund, 60 kilometers from the mine. The company's approach from the start was that it (and its employees) would integrate with the city and not dominate it. Dwellings have been built in different parts of the city and lots have been built alternately in new neighborhoods. Employees have also been motivated to participate in community programs so that they are integrated into the city.

#### ***Namibia and the Rossing Foundation***

In 1979, the company created the Rossing Foundation to help the people of Namibia and make a significant contribution to its progress. The Foundation is managed by an Executive Director, who is responsible to an independent Board of Trustees. The Foundation is financed through donations coming from the earnings of Rossing. The company contributes 3 percent of its earnings (net contribution, after taxes) to the Foundation. By 1996 the company had invested US\$ 25 million in the Foundation. It is estimated that more than 15 percent of the population of Namibia have benefited from the activities of the Foundation.

The principal objective of the Foundation is to improve the living conditions of the Namibian people. The main areas of activity are:

- informal education
- training courses through several centers in the country, including English, computing, accounting, office administration, sewing, welding, auto mechanics, and other specialized courses
- a library network
- assistance to self-support programs in the rural communities, especially in the artisanal sector
- assistance in research to increase agricultural production and ensure food supply for Namibians

The policy of the Foundation is to create projects principally in the regions of the country where its employees were recruited.

The activities of the Foundation have grown enormously since 1990. With the independence of the country, several international cooperation agencies came in with support to Namibia. The Rossing Foundation is now an internationally accepted organization that administered between 1994 and 1996 US\$ 10 million from other donors (among them the World Bank, European Community, USAID). The strategic areas of investment of the Foundation are in agreement with the government policy and accepted by the community, NGOs, and community based organizations. Today, the Rossing Foundation acts as an intermediary organization. It also acts as a financial management organization and a conduit for development funds to go into meaningful and effective development projects.

The success of the Foundation is primarily due to the following:

- Implementation of the concept “bottom up”; that is, strong participation of the target group in the project’s decision making. The Foundation acts as a facilitator.
- The development of trust has a high priority. The Foundation has worked very hard to establish a relationship of trust with the communities, the NGOs, community based organizations, government, and several donor and international agencies.

### **Observations from the Community: Inti Raymi—Bolivia**

The Inti Raymi Company has its operations in a traditional mining zone. Gold has been exploited here since the time of the Spaniards. Inti Raymi has been working on gold and silver exploitation since 1985. Presently, the mining exploitation of Inti Raymi is the largest and most modern operation in Bolivia. It introduced modern technology and an environmental plan which includes land rehabilitation. The company puts special emphasis on the environment and working conditions.

The communities around the company are characterized as poor, with a large amount of inequality and extreme differences between the communities and the company. Before the beginning of its operations, the company prepared a socio-economic study of the region. As a result, it created the Inti Raymi Foundation to support the development of the region in the following aspects:

- training and education (i.e., construction and management of schools)
- support to agricultural production (solar tents, handling of forage, slaughter houses)
- housing and potable water
- reforestation
- health (hospital and doctors on motorcycles)
- infrastructure (electricity, roads)
- artisanal centers.

The policy of the company and the Inti Raymi Foundation is to initiate a self-sustainable development to ensure improved living conditions for the communities, or at least get an alternative type of income for them when the operations of the company come to an end. Even though the efforts to maintain a good relationship between the company and the community are of a model character for Bolivia, various observations exist on behalf of the community regarding the handling of the relationship:

- There is a lack of information and transparency on behalf of the company and Foundation. For example, the public do not have access to the study on environmental impact. Neither does it receive information about tax or royalty payments.
- The communities were not involved in the decision process (i.e., there is no participation in the project planning). As a consequence, several projects have failed.
- The staff at the Foundation is continually changing. There is too much spending on diagnostics and very little on investment projects.
- Houses which are built to house miners and their families remain the property of the company.
- The company uses its investments in the Foundation to reduce tax payments. Consequently, the state subsidizes the Foundation;
- A large part of the Foundation's projects are mainly financed by the Social Investment Fund (a project with government resources) with only a small part

of the funds from the Foundation. This means that the projects are mainly financed by the government.

- Community members were compensated in cash for their lands. The money was then invested in businesses outside the area which usually failed, after which they returned to the communities as poor as when they left.
- An imbalance exists between community members that work in the company and those who do not.

### **Conclusions based on the Results of the Workshop**

The conclusions are based on the lessons learned from the presentations, discussions, and workshop.

#### ***General Aspects***

It is important that the communities be taken into consideration during all the phases of a mining operation; that is prospecting, exploration, exploitation, and closing of the mine. Until now, several companies tried to have a good relationship with the community only during the mine operation (exploitation), but as we will see later, it is important to involve the communities or at least to have two-way communication with them from the beginning (prospecting, exploration) of any mining project. It is favorable to program joint activities with the community from the prospecting stage until the closure of the mine.

To have a good future relationship with the community, a company has to create an environment with realistic expectations by an open and honest information policy. Often the companies create many expectations and promise to create a better future for the communities, which during the lifetime of a project cannot be accomplished. These commitments help the company at the beginning and open the doors of the community, but when the community realizes that their expectations are not met, they feel cheated, the relationship deteriorates, and problems are inevitable. Companies that behave in such a manner put in danger future mining activities because of the bad image that the mining industry has with the community. It should be explained clearly that the company cannot solve all the problems, although it can help in the development process.

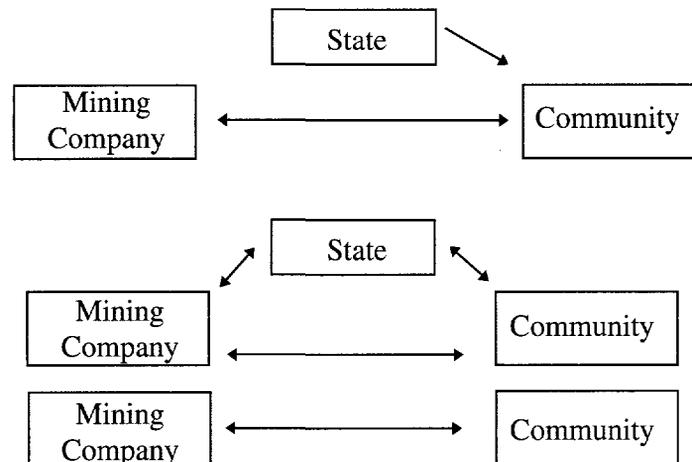
Mining companies need to understand how the community works. Baseline socio-cultural studies are a good way to know the communities. The preparation of studies and socio-economic, cultural, and spiritual research is necessary for new and already existing projects. It is important to establish good communications not only with the community authorities, but also with other community members, including professors, church representatives, parish groups, political leaders, and key people from different parties, as well as other people identified in the socio-cultural research. In the case of indigenous groups, it is advisable to negotiate without intermediaries (i.e., NGOs). Almost always the indigenous groups have well prepared people who have the trust of the group.

Many times there is a contradiction in the understanding of the law by indigenous groups and by the state. Mining laws usually regulate subsurface property, which is different than surface property. Frequently, in the socio-cultural understanding of indigenous groups, this difference is not made. If they own the land, they feel they also own the subsurface. This misunderstanding can cause future problems. More information, communication, training, and agreement between the state and indigenous groups often are necessary before a mining company should be allowed to enter.

There was no consensus among the workshop participants about the role of the state. The main question was: Should the Government have a mandate?

Different models are possible, among others:

**Figure 6.1: Models of Stakeholder Interaction**



The proposals extended from strengthening the role of the state as mediator between the company and community, so that a Ministry of Mining could act as the leader in agreements, to avoiding the presence of the state completely. Each option has its advantages and disadvantages. The state, as promoter of mining investments, has a vested interest in actively participating and controlling the process. However, there is frequently mistrust—principally on behalf of the community, but also by the company—in Government entities (lack of credibility, capacity, and responsibility, as well as

corruption). The decision about which model is the most recommendable depends on various factors, such as conditions of the country, government policy, and mining potential.

### ***Exploration Phase***

It is very important that the process of consultation, information, coordination, and agreement between the company and the community be initiated in the exploration phase. The specific conditions of the exploration should be taken into account. The possibility of success is small—normally only one percent of prospects reach mining production.

The communities, especially in Latin America, do not differentiate between exploration and production activities. Massive explorations, which are occurring presently in the subcontinent, are not yet understood by the community. For them the exploration that takes place in their territory has the same importance as mining production. Many exploration activities are carried out by smaller companies. These companies only want to prepare a pre-feasibility study in order to sell the concession to a senior company if the results are positive. The junior company rarely undertakes the actual mining production.

In the exploration phase, there exists a high probability of external influence outside of the possibility of a deposit. Many of the activities have a speculative character, driven by the stock exchange, than a real interest in searching for deposits. There are also pseudo-explorations, whose only objective is to spend the “black money” diverted from tax payments in developed countries.

The communities should be informed and made clear of all these possibilities. An exploration company should have the responsibility and moral and ethical obligation to keep the community informed about its activities to ensure a good relationship in the future. If the relationship is already damaged during the exploration phase, the company that is to carry out the actual mining production could have serious problems with the community. It is possible that the concession loses value because of the difficulties caused with the community.

The community should involve itself actively with work related to exploration. If the community wants to participate in the benefits during the mine production phase, it also should be an obligation for the community to share the exploration risks. This does not mean that the community should contribute with funds, but it could provide labour for activities such as road construction.

### ***Exploitation Phase***

A mining company makes earnings when it is in the process of exploitation or production. This is the precise moment for a company to give social and economic benefits to the community.

There are two models, tested with success, to manage development assistance from the company to the community:

1. through direct assistance and/or financial support from the company; and
2. through a foundation created and financed by the company.

### *1. Direct Assistance*

This concept consists of direct assistance from the company to the community, managed and executed under the responsibility of the company itself. The budget should be clearly defined and depend on the possibilities of the company and the needs of the community. Planning and execution of projects and/or actions should be carried out with the community in a participatory way. The type of assistance to be provided will depend on the local conditions. Principally, two types of assistance are recommended:

- direct (i.e., through social, health, education and technical assistance projects)
- indirect (i.e., through the strengthening of local institutions, joint ventures with municipalities).

One should be careful to avoid any type of political influence in providing assistance to the community.

### *2. Foundation*

In this case, the company assistance is administered and executed by an institution (foundation) created for this purpose. The foundation works under the control of the company. The budget depends on the possibilities of the company and the needs of the communities. The company should make a fixed and transparent financial contribution to the foundation, for example, a percent of the company earnings (after tax payments). Only then is it possible to speak of a real financial contribution from the company. If the company can deduct their assistance from taxes, the foundation would be partially paid by the state, a situation that cannot be justified. The company would take all the merits for assistance being provided indirectly by the State.

A foundation needs to have its management and administration independent from the company. Transparency in the management of the foundation, including information policy and participation of community members in the planning and executing of projects are important conditions to create an environment of trust, which ensures the success of the foundation. The foundation should try to ensure its institutional sustainability during the financing phase of the company by attracting other funds. In this way the possibility exists that the foundation can survive after the mining company closes its operation and finishes its contributions.

The selection of the model depends mainly on the company policy and factors affecting the company, but also on local conditions.

For both models, there are some essential aspects that must be taken into consideration:

- It is necessary to have the support and commitment of the highest levels of management in the company. In the case of international companies, it is especially important that the office headquarters be responsible for the implementation of the support provided to the communities.
- It is important to have staff dedicated to the management of the support.
- Regular and transparent reports should be prepared, internal or external audits carried out, and systems to monitor and evaluate activities should be developed.
- Total transparency should be assured regarding the company's environmental aspects, especially the Environmental Impact Assessment.
- Support should be concentrated on productive development projects that can ensure alternatives for subsistence and the sustainable development of the community.
- It is preferable to execute the projects directly with the community without intermediaries (e.g., NGOs, government organizations).
- Projects should place special focus on empowerment of the community.
- Local and regional development plans should be taken into account in planning the projects.

### ***Closure Phase***

The company should extend its assistance to the community until the closure phase of the mine. The company should have funds and projects planned for land rehabilitation, which should be implemented after the closing of the operation.

A mining operation always has a closure plan. This plan regulates principally environmental aspects, such as land rehabilitation and closing of shafts. Mining companies should also include the socio-economic characteristics of the community in the plan. Community members should be adequately prepared for the time after the company's production ends. Assistance to the community should be planned in such a way that community members can take advantage of the subsistence alternatives developed when their main source of income, the mining operation, ends.

### ***Practical Recommendations***

The recommendations based on the conclusions of the workshop are:

- A mining company must take the community into account during all the phases of the mining operation: exploration, exploitation, closure.
- A mining company must create a honest environment with realistic expectations of the community through an open and practical information policy. The community must understand that a mining company cannot solve all their poverty problems.
- A mining company must understand how the community operates (socio-economic, cultural, spiritual).

- A mining company should maintain communication with the entire community, including indigenous groups. Negotiations with indigenous groups should be carried out directly, without intermediaries.
- A mining company, including junior companies, must initiate the process of consultation, coordination, information, and agreement with the community during the exploration phase.
- A mining company should involve the community actively in the work undertaken during exploration.
- Two models can be recommended to manage the support from the company to the community: direct support from the company or support through a foundation. In both models, to create an environment of trust it is necessary to have complete transparency, a defined budget, high participation of community members during planning and executions, a responsible administration, and an emphasis on productive projects with special focus on the empowerment of the community.
- Community development projects should correspond to the everyday life of the mine.
- The mining company must extend its support to the community until the closing phase of the mine.
- The mining company must take into consideration the socio-economic characteristics of the community and agree on the terms of land rehabilitation projects for the closure phase.

The mining company must prepare the community for the time after the mining production of the company closes.

# 7

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## **Mining and Communities: A Discussion Paper**

**Kathleen Anderson, Queen's University, Kingston, Canada.**

### **An Overview**

Choices about whether, when, and how to develop a nation's mineral endowment are complex. Mineral development—indeed, natural resource development of almost any kind—has social, environmental, and economic implications which must be evaluated and understood by decision makers, and communicated to those potentially affected. Realistic, informed, and wise decisions are demanded, and yet the information with which to make such decisions is most often incomplete, imperfect, and shifting.

The size and diversity of communities at and near the mine, the nature of the ore body and its surrounding geologic potential, and the socio-political objectives of decision makers are only a few of the factors which may determine whether the fruits of mineral development will be fully harvested. The personal, social, and civic lives of many people may be affected, in ways both beneficial and not, by the choices which must be made, and the contemplation of how to best move forward even in uncertainty will be time well spent.

Properly managed, a mineral endowment can be developed in such a way as to deliver a wide range of long and short-term benefits. Most commonly cited is the infusion of employment, economic opportunity, and hope into rural areas plagued by poverty and chronic underdevelopment. Many countries have also benefited from foreign exchange earnings, the introduction of new technologies and practices, improved investment climates, construction of infrastructure, and the education and training of mine workers and their families.

A well-managed mine can generate innumerable spin-off benefits to the local community. Meal programs and food packages assure that mine workers, their families, and other local residents have the basic necessities for intellectual and physical growth. Schools, training centres, and community-based education programs lay the foundation for stable communities, build local leadership, generate enterprises to support the mining

activities, and diversify the economy in preparation for the ultimate shift to a post-mining economy. Improved health and education may make it possible to reverse the intractable downward cycle of poverty which plagues so many communities and turn it into a cycle which supports economic, social, and communal well being.

A natural enthusiasm for such desirable outcomes, however, should not be allowed to blind decision-makers to the potential which may be at least as great—to generate social and environmental costs which might have to be borne for generations. Awareness is growing that human health and ecosystem health are intimately intertwined. And, in most countries, fiscal resources available to the public sector are shrinking. Even though they are faced with many competing demands for scarce budgetary resources, governments are called upon to make informed decisions which will protect and enhance the nation's long-term economic, social, and environmental well-being.

Further complicating matters for decision makers are the advances in communication, transport, and scientific know-how which have removed many barriers to international trade and the free flow of information. The decentralization of governments and the globalization of the mining industry are but two of the many independent responses to this change. When viewed separately, each of these responses can be seen to be a logical outcome along the continuum of historical events. An accurate survey of socio-political events at the end of this century however requires that these events be viewed together, for they are deeply interdependent. It is my opinion that these two independent responses have converged, the result being a fundamental redefinition of how decisions are made about the development of mines, and in particular, who gets to participate in the decision making. This is a time of transition, in which there are many opportunities to create new partnerships, new relationships, and a new vision of how we can best work together to solve these problems and advance mutual gains, but it is also a time of tremendous challenge.

There is a long tradition of mining companies working most closely with central governments to resolve their many social, economic, and environmental challenges. The direct social and environmental costs of mining most often occur locally, in the communities at and near the mine. However, the control and management over the distribution of many of the more significant benefits has historically been retained at the national level, and periodically at the state or provincial level. Where government was weak, without resources, or simply lacking in will, companies often served as surrogate governments, making largely unilateral decisions about the level and distribution of social benefits. The company town was common, with clear delineation of the "haves" and the "have-nots".

Today, however, there are interested and affected parties who have the power to affect quite profoundly not only how the problems of mining and communities are defined, but also can expedite or obfuscate the most effective and well planned implementation of solutions. The number of affected parties with legitimate sources of power, control, and authority about how decisions related to communities will be made has risen dramatically

over the last decade. This fact arises largely from the capacity of mining to generate both benefits and costs of great magnitude (either in absolute or relative terms). Some of these affected parties (often referred to as stakeholders) are traditional and obvious (ministries and corporate headquarters) and mutually agreed upon across most cultural, regional, economic, and political boundaries. Others are less familiar and less traditional (churches, local non-governmental organizations) but no less legitimate.

There is growing evidence that neither governments nor corporations can achieve an acceptable range of benefits acting alone—each must find ways to cooperate—without losing autonomy and independence—with communities and others who are genuinely affected by the decisions which must be made. Failure to do so may bring such costs over the long run that it would have been preferable from both the economic and social perspectives never to have embarked on the project in the first place.

Is it possible for governments, citizens, and mining companies to make decisions and implement programs and policies which will enhance the probability that the social benefits of mining are more fully realized, while also seeing to it that the all too common environmental and social costs of mining are properly managed? I propose that decision makers can indeed identify and select social and economic policies toward this end, and that when those policies are informed by the goals, values, and perspectives of the host community, there is a greater likelihood that they will be long-lived, less costly to implement, and ultimately more effective. Flexibility and innovation, informed by the commitment of corporations, governments, and communities to identify areas in which their mutual gains can be expanded, can lead to new partnerships, and ultimately, to the growth of an unprecedented level of mutual trust.

### **“Ready, Fire, Aim”**

The design and implementation of such policies and programs will require a more explicit understanding of the dynamic evolution of the interrelationships between the mine and the community. Experience has shown that a combination of such elements as a well staffed and well trained regulatory body, transparent and consistent policies, strong political will, and unswerving corporate leadership affect the likelihood of achieving an acceptable level of benefits relative to costs over the long run; building on these previous successes will go far toward informing future decisions. But in times of rapid and substantive change, the inclination to rely on ‘cook-book’ prescriptions must be moderated by an acknowledgment that past experience may or may not be relevant.

The mining industry has long argued, and appropriately so, that site specific environmental regulation which reflects the unique hydrology, topography, and geology of each ore body is not only more cost effective, it leads to better environmental outcomes, and meets many of the tests of good public policy. Analogously, each community has characteristics, history, and a setting which are unique, unlike any other community. Furthermore, communities, being organic, change over time in ways that are sometimes predictable and sometimes not. Why is one mining community plagued by

alcoholism, prostitution, and decay when another begins to blossom when a mine is opened?

Too often, companies develop community plans which reflect not the uniquely distinguishing characteristics of each town or village, but rather are a summation of all the lessons learned in previous experiences, be they good or bad. Equally, communities can often be observed relating to all mining companies based on historical interactions with a multitude of companies and individuals, sometimes going back centuries. The quality of the partnership between the community and the mine it may host, its potential for mutual trust, and the level of trepidation or willing optimism, will be greatly affected by the degree to which unique (and evolving) interests, values, perspectives, and hopes are accurately discerned.

There are many pressures to generalize experiences. Decision makers must often begin to design strategies and responses before fully understanding the nature of the problem they are facing. In some cases these pressures arise from the finance community as it seeks to ascertain and quantify the intangible social risks associated with a project. Genuine, but manageable, differences of opinion about how and when a mine should be developed are often suppressed in the rush to build shareholder confidence. At other times the company may be burdened by an inculcated rigidity which does not allow for new information to be institutionalized into corporate decision making. Communities often attribute stereotypical behaviour to company representatives. Accurate information about the desires and aspirations of the community residents is filtered through a semi-permeable membrane of caution and distrust before being communicated. The result can be a pattern of relationships between communities, companies, and government officials which are based on an inaccurate or partial understanding of the needs and desires of each partner.

Decisions made on this basis may lead to a temporary alleviation of the perceived problem, but often it is only a symptom which has been addressed and not the problem. The result can be an appearance of action (passing legislation, signing a ministerial decree, establishing a corporate community liaison position) which may be genuinely intended to constructively move forward solutions which meet the needs of all partners, but there is often disappointment and bitterness when such solutions fail to have long viability or stability. Unfortunately, the scarce resources of time, talent, money, and goodwill, if consistently misdirected and failing to deliver sufficient benefits to justify their investment, are often not available once the "problem" is correctly understood.

The following are a few questions which decision makers may want to ask themselves to gain a first approximation of whether the relationships and partnerships which constitute the community of stakeholders have been properly defined. This list is not intended to be comprehensive, but only a starting point.

At what level and where are the decisions made about social and economic components of mining projects? If indeed it is true, as I have proposed, that there are a growing

number of legitimate decision makers with many sources of power, control, and authority in mining projects, it is ever more important to take the time to ascertain who makes what decisions, when, where, and why. The trend toward removing barriers to foreign investment, coupled with the technical and engineering advances which allow development of projects in increasingly remote areas, makes this task both more important and more challenging.

What has brought this issue to the attention of the decision maker? Is a mine permit pending, is there a threat of civil unrest, is new legislation being proposed, or is there an upcoming election? Any of these events may precipitate the need to design, implement, or update approaches. Ascertaining quickly and clearly the motivation for a policy shift will assist decision makers in understanding the root cause.

Is the problem upon which decision makers are focusing their attentions the result of anything they can control, or is it an unintended consequence from a policy decision in some other sector? There are many instances of destroyed trust, disruption of productive and mutually beneficial partnerships between communities and mines which have been brought about by changes which were unanticipated, which could not have been predicted. It is important that certainty about the ability to control social and economic impacts not be exaggerated, for there are many exogenous influences which cannot be predicted.

Population control programs, shifts in government employment strategies, structural readjustments, the advancement of education for girls, or a tailings dam failure 4,000 miles away are only a few of the many variables which may necessitate an update or redefinition of policy approaches. Predicting and understanding the full implications of seemingly unrelated events in any rigorous, scientific sense may well be impossible. Flexibility, a willingness to be responsive, and a commitment to updating community policies on a regular basis will help to ameliorate these challenges.

Do empirical data exist to support a need for a new or updated policy? Quite often policy decisions are taken under conditions of inadequate or incomplete information. Sometimes this results from the intrinsically imprecise and evolving state of the art in the practice of hazard identification, risk assessment, and risk management, particularly with respect to human health and social well being. Other times this arises from strong emotions induced by a portrayal of events in the local, national, or international press.

One cannot underestimate the importance of timely, well informed, and balanced presentation of facts by the media. The media can be a partner in the timely evolution of relevant policies for mining communities. However, due to the scientifically complex and technical nature of much information in this industry, along with an historical tendency of mining companies to be recalcitrant and reluctant to deal openly with the media, ill-informed or inaccurate portrayals of events affecting mining communities are all too common. Decision makers often feel pressured to act prematurely in this context, and the outcome may be a loss of legitimacy, undermining of the integrity of the decision-making process, and a disintegration of trust.

### **The Locus of Decision Making**

Forward thinking firms, whether big or small, actively seek to empower the communities they live and operate in. They have open, clear, and comfortable communications with civic associations, non-governmental organizations, churches, trade associations, labour unions, various levels of government, international agencies, and many others. They willingly accept the social and civic responsibilities that come with being part of the community.

This does not always arise from a sense of civic altruism. The economic benefits to the company are definite, measurable, and indisputable. It can be clearly demonstrated that there are direct labour and training costs which arise from accidents, illness, and death—all positively correlated with social decay, instability, alcoholism, lack of sufficient nutrition, and lack of education. (It should be noted that these circumstances may have existed in the community long before the mine was built.)

There are sites around the world where sabotage, riots, and extreme violence have put mine workers and mine infrastructure at risk, and the direct costs of managing and preventing these tragedies have escalated rapidly in recent years, affecting the economic feasibility of individual mines. Perhaps more important is the long term loss of international good will, legitimacy, and credibility for both companies and governments.

This is not to suggest that mineral development can, in isolation, lead to this level of conflict, but rather to argue that it is increasingly evident that companies and governments must work together to prevent and solve these problems, with a commitment to inclusive decisions which engage the communities harboring such strife. It may be necessary to craft policies which have been historically been outside the limited venue of social projects (education, infrastructure, philanthropy in the arts) which mining companies are most familiar and comfortable with. Again, the most important aspects of this issue are the correct definition of the problem and the willingness to build partnerships in arenas which may be neither familiar nor comfortable.

### **Goals, Objectives, and Criteria**

Many times decisions must be made and policies put in place without adequate or precise information. The cost of gathering information is high, so it is important that what information there is address the concerns of a specific site, and provide correct input for the relevant policy objectives. Furthermore, there must be ongoing reevaluations and updating of information about the characteristics of both the mine and the community.

The effect a mine will have on surrounding human communities will vary dramatically over time. A mine may last only months, or it may last for centuries. The host community in which it is operating will evolve during that time. Some of this evolution will be attributable to the mine and all that it brings, but there are other forces of change which cannot be predicted, analyzed, or mitigated.

Protracted violent conflict, new technologies, the death of a leader or unintended consequences from seemingly unrelated legislation in a far-distant central city are only a few of the forces which may fundamentally alter a community, its values, and more importantly, how the community members and the mine workers interact and relate to one another. Exploration, construction, development, operation, and closure each typically will bring new personalities, demand for a different type of services and products, a different type and level of effect on the physical environment. It is reasonable to expect that the community and the project will be mutually transformed by the changes in the other. These relationships can and do shift in fundamental ways; staying current should be a top priority.

Responding appropriately to evolving social expectations is one of the biggest challenges facing decision makers. Setting goals, objectives and criteria explicitly is an acknowledgment that most, if not all, societies have limited resources with which to address the challenges that confront them. Problems such as rapidly growing urban populations, environmental degradation from many sources, poverty, and political instability must "compete" for scarce, and in many cases, declining government and international aid resources. If policies are to be designed which meet the needs of the greatest number of people and which generate benefits which are "sustainable," analysts and decision-makers need to ask, "What is important to us? What do we want to achieve? Why are we taking an action to address this problem, as opposed to another serious problem? Is the support for this goal narrow and short-lived, or is there broad-based support with strong historic roots?"

There are many criteria from which decision makers may choose when considering how to proceed with and successfully manage the social impacts of mining. In some societies the protection of habitat for aquatic species is a primary criterion, weighted equally with the protection of human health. In others, it is the alleviation of rural poverty which guides the design and implementation of social policies with respect to mining. The traditional "western" view calls for effectiveness, efficiency, and equity to be the primary criteria for analysis of policies and programs, but there are many others which may be equally or more appropriate.

The basic traditional criteria by which to measure success in social development are education, health, and income. Distributional criteria may be important in some settings and are sometimes indistinguishable from such objectives as political feasibility and accountability. The international community may influence the adoption of other criteria, such as transparency, participation, sustainability, and environmental impact.

In establishing goals, decision makers are assigning priorities to a wide range of values which are informed by religion, history, culture, tradition, politics, education, and many other factors. Many of these "core" values prevail throughout time, defining day-to-day activities and relationships in ways that are both conscious and habitual. Other values, sometimes referred to as opinions or perspectives, are dynamic and evolutionary.

That social and cultural values in host communities are at once variable and remarkably consistent, obvious and yet incomprehensible, creates one of the biggest challenges. It is not my purpose to judge any set of values or opinions but rather to argue that when the objectives for decision making are explicit and well understood, and when the criteria by which they will be measured are thought out in advance, it becomes easier to rank-order problems and more clearly define necessary tradeoffs. Constructive and feasible solutions are more likely to evolve when they are based on premises acceptable and accessible to those charged with implementation, as well as by those who are affected.

Because they are subjective and value-laden, and because mining has the potential to create benefits and costs which vary widely for many segments of society, goals, objectives, and criteria for decision making about social development are unlikely to be universally agreed upon. However, it is my observation that diverse interests can come together for mutual benefit when interested parties are willing to be open about their objectives and when diversity of opinion, culture, training, and experience are accepted in a climate of mutual respect.

### **A Starting Place**

In 1983 Glass and Lazarovich, at a conference titled 'Mining Communities: Hard Lessons for the Future,' introduced an approach to distinguish the various socio-economic concerns of mining communities. The following discussion is not novel, but expands and reinforces the usefulness of those basic ideas. As mentioned earlier, I do not believe that a rigid cook-book type decision-making system is useful at this time. Rather, I propose that there may be guidelines with which decision makers might begin to categorize "problems" and identify the appropriate level and type of criteria for the analysis of alternative management approaches. Considerations for inclusion in a category are (a) scale of the proposed operation, (b) distance from existing communities, and (c) expected life of the project. Further refinements of this approach should involve environmental variables as well. As discussed below, communities can move from one category to another as the reserves are redefined with changes in price, technology, costs, regulation, and as population distribution, infrastructure, and other factors change.

#### **Category A**

In this group are newly discovered, smaller ore bodies, expected to be depleted relatively quickly, located in a remote location, far from existing communities. Regional poverty and unemployment rates are high, and workers are willing to relocate for any employment opportunity.

The communities which develop around the mine described above are among the most vulnerable to negative social impacts. Infrastructure which is not already in place is unlikely to be developed. The operator may be (but is not always) small and inexperienced, and basic health and safety precautions would not be expected. Rigorous

inspection and enforcement is unlikely. The implications are similar to many artisanal sites, in fact.

The social consequences, both beneficial and otherwise, of developing this mine are highly local, with three exceptions. First, the mine will attract workers who might otherwise have migrated to prime cities, many of which are already seriously overcrowded and are facing extreme social degradation. Second, even while small operators may not be able to afford state-of-the-art practices in mining, environment protection, or social development, they do diversify the “pool” of suppliers of mineral products and potentially are a part, however minimal, of an equation for political stability in which the bargaining power of large, multinational mining companies is counterbalanced by domestic suppliers. Third, some of the world’s great mineral finds started as small mines in this category, where further exploration and development led to an expanded definition of the ore body.

### ***Category B***

The initial exploration of this newly discovered type of ore body indicates that it is quite large, potentially a “world-class” mine. If it is located far from existing communities or near small and underdeveloped communities, unmanaged social impacts could be quite severe. The trend toward removing barriers to foreign direct investment, coupled with technical and engineering advances which allow development of projects in increasingly remote areas, has led to a growth of projects in this category in recent years.

The economic opportunity created by a deposit like this will attract many willing operators, but the cost and the challenge of building a mine in a remote region will most likely limit the ultimate operators to companies which have access to international capital markets and extensive experience. It is probable, although not universally true, that state-of-the-art technologies, management, and engineering will be employed. Experienced and progressive operators are typically at least aware that the well-being and stability of the communities they operate in is essential to their corporate well-being, although there is significant variability in the level and type of corporate/community partnerships which evolve.

Negative social impacts may arise from massive and rapid immigration of workers with high expectations. With little or no ability to meet the basic needs of this new population, social stresses may soon become evident. Even where experienced companies immediately act to provide the basic necessities for incoming workers and their families, there may be high rates of random violence, alcoholism, and sexually transmitted diseases, a lack of adequate housing, overcrowded roads, and other social impacts at the local and regional level. (In North America, it has become quite common to mitigate the social impacts of mines in this category by adopting a “fly in, fly out” policy.)

Closure may be particularly problematic for a mining community in this setting. Even with the combined efforts of the private sector and relevant government agencies to

diversify the economic base, it is likely the regional economy will be heavily dependent on this single dominant source of income and employment.

It is important to note that mines in this category can and do generate abundant benefits for the host region and the nation. Revenues from various taxation schemes, increased availability of foreign exchange, the introduction of new technologies, higher performance standards, and the demonstration of engineering efficiencies are only a few of the many benefits which may accrue at the national level with the development of a mine in this category.

Benefits accrue to the broader society as new, significant streams of revenue become available to support the development of good governance. The purchase of state of the art equipment and facilities becomes possible. Government professionals have resources for advanced training and education and are exposed to a wider variety of regulatory approaches from which to choose. Efficiency in governance grows as government professionals travel, meet with their colleagues, and learn from the experiences of others with similar challenges. More competitive salaries can be paid, and better educated, more talented workers may be attracted into the public sector.

An even wider range of social benefits can be assumed if mine-based revenues are directed to education. With more resources in the educational system—and less of the devastating level of poverty which necessitates child labour—the education of girls may become more probable, and this has been proven to be a critical support structure in the architecture of social development. Young women with a greater awareness of the existence of choices and options tend to delay child birth and to take advantage of prenatal care, with the result that when children do arrive, they are healthier, more capable of learning, and better able to take their place as productive members of society.

These benefits are not likely to accrue without close attention and management from all parties. And most important, there must be a common long term vision which will support investments in governance, education, and health which may not bear fruit immediately.

### **Category C**

In this category, the ore body may be large or small, but it is located near an established community. The size and tradition of this community will determine the availability of a trained labour force, support services, and economic diversification. Many towns or regions which benefit the most from mining have a) an existing and accepted mining tradition and several operating mines (optimally ownership is diversified) and b) an adequate or excess capacity to meet the needs of the mine and its workers. This may include infrastructure such as hospitals, airports, deep-water ports, and electric generating capacity; government professionals trained in regulatory responsibilities; recreational and religious facilities; vacant housing; a healthy, skilled labour force, and a socially stable community base.

By definition, this community is located in a mineralized region where there are other operators. The mine life becomes significantly less important in this milieu; other mines in the region may be able to absorb laid-off workers when an individual ore body is exhausted. It is in regions such as this that one can see the evidence of mining as the proverbial "engine of growth." It is common to observe mining communities in this context which begin to flourish as a result of the enhanced skills in the labor force, higher levels of education, a myriad of increased opportunities for workers and their families, better health and nutrition, and reduced infant and early childhood mortality and morbidity. Perhaps most important, and most difficult to quantify, is the overall hope and optimism which can come to a group of people when poverty begins to release its hold.

Good management and mine planning, reinvestment of mineral taxation proceeds into education, training, and public services, and community involvement in the success of the industrial base create a three-way partnership which generates increasing benefits to partners in ways that are both tangible and intangible.

However, even in this sanguine environment, unexpected mine closures can and do occur, arising from price declines, reduced demand, increased costs, or some combination thereof. When these factors affect the profitability of all the mines in the region simultaneously, the negative regional social impacts can be quite extreme. There are similar communities, without a mining tradition, which have a diversified economy, generally good services, the capacity to absorb benefits, significant existing infrastructure, and a workforce willing to be trained to work in the mines. To fully achieve the social benefits of mining in this setting will be perhaps more of a challenge, but not insurmountable.

#### ***Category D***

As above, the ore body is found near the town or village, but there are no other operating mines. The distinguishing characteristic of this community is that there is an extremely high level of poverty within the region, as traditionally measured. What little economic activity there is derives from subsistence-based activities and barter; money is not the common measure of value or exchange. Disease and malnutrition may be far more prevalent than in the larger society and the average life span may be significantly lower.

The workforce is not likely to be educated, and there is little if any infrastructure and no long-standing relationship with government (central or otherwise). Indeed, such communities often may not acknowledge governing bodies or political institutions beyond their local authorities.

The capacity to absorb benefits in these communities or regions may be extremely limited and the changes which a mine introduces can be particularly harsh and extreme. If the ore body is large enough that mine life is expected to be quite long, it is particularly important to explicitly define social objectives and criteria. The basic values, opinions, and perspectives of the community are likely to be quite foreign to the mining

company, and often to the government as well. There is little probability of effective citizen participation in the short run.

### **Conclusions**

The site specific characteristics which must be considered when evaluating a proposed or existing mine reach beyond its unique geology, hydrology, or topography. Just as we have come to understand that there are clear and measurable indicators for whether or not an ore body can be developed and exploited in an economically and environmentally feasible manner, so it is possible to understand and evaluate the social aspects of mine development. The preceding comments represent preliminary thinking. As these issues grow in importance the contributions from participants which challenge, refute, or affirm these hypotheses in conferences such as this will become increasingly important.

Policy making under all forms of government is an inherently muddled business, and unlike in the environmental arena, there will never be chemical or biotic standards with which to mathematically measure success or failure in community well-being. Again, should a country choose to develop its mineral endowment, as one of the many pathways available for economic development, social policies and regulatory regimes must be clearly analyzed for relevance to each specific socio-geologic site, there must be sufficient political will to manage the site at the appropriate level, and decision making systems should be flexible enough to incorporate rapidly shifting social values.

In some communities, institutions such as trust funds and community development boards have been created to reinvest a share of the mine profits toward the end of building the human capital necessary to ensure long term economic and environmental sustainability. At other locations, citizens, businesses, and governments have worked together to make decisions about how to develop, operate, and close mines so that mining remains a temporary use of the land, and that subsequent, sustainable land uses are protected.

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## **Consultative Processes in Guyana's Mineral Sector: Bauxite and Gold**

**Dennis Canterbury, University of Guyana, Georgetown, Guyana and  
Dalhousie University, Halifax, Canada.**

### **Introduction**

Guyana's mineral sector is characterized by bauxite, gold, diamond, shells, and silica sand mining (GAHEF 1989). Its mineral resources include kaolin and other clays; semi-precious stones such as agates, jasper, amethyst, and rose quartz; stone (aggregates); and industrial minerals such as potash, feldspar and manganese. Bauxite is currently mined by two state-owned firms, the Linden Mining Company (Linmine), and the Berbice Mining Company (Bermine). Whereas the management at Linmine was recently privatized, at Bermine, a private company (Reynolds) is involved in the production of bauxite at Aroima under a special arrangement with the Guyana government.

The gold mining sector comprises a large number of small miners known as "pork-knockers" (a local term for small miners), a few medium sized firms, and one large scale company—Omai Gold Mines Limited. As well, illegal small-miners known as "garimpeiros" cross the border from Brazil to operate in Guyana's hinterland. Large scale and some medium-sized gold mining companies are foreign owned, while other medium and small firms are held by locals. Shell and silica sand are mined by the Trans Guyana Mines and the Rorima Mining Company, respectively.

The recent privatization of the management at the Linmine state-owned bauxite company and the rapid expansion in gold mining in Guyana have escalated the perceived and real problems and conflicts between miners and the community. This presentation examines aspects of these problems and conflicts concerning the legal and consultative processes, indigenous peoples, and economic and social benefits and costs in Guyana. The Guyana case study provides a review of the bauxite and gold sectors in the Guyana economy in terms of their profitability, employment, provision of infrastructure, taxation,

and contributions to the national income. Further, discussions are undertaken on environmental and labor legislation regarding mining; the consultative processes between the mining companies and the government during the privatization of the bauxite management and the opening of Omai Gold Mines Limited, including the social services and non-wage benefits; the role of local and indigenous communities in the consultation processes, including the division of responsibilities between the central and lower levels of government; special procedures and rights of indigenous peoples; the actual dispute resolution process, including the role of non-governmental organizations (NGOs); and conflicts in the consultation processes between indigenous peoples and non-indigenous local communities. A number of recommendations are made at the end about the resolution of the perceived and real problems regarding bauxite and gold mining and the community in Guyana.

### ***Review of Domestic Economy***

During the 1970s and 1980s Guyana pursued a policy of "Cooperative Socialism," which led to the nationalization of the sugar and bauxite industry and state ownership and/or control of over 80 percent of the economy. In 1988 an International Monetary Fund and World Bank inspired economic adjustment program was adopted. There was a change in government in 1992 after 28 years. The Guyana economy has experienced a 7.3 percent average real growth rate of Gross Domestic Product between 1991 and 1996. In the same period, there were increases in the GDP and GNP at factor cost, an escalation in per capita GDP and GNP, a decrease in public consumption as a percentage of gross domestic expenditure, and an increase in private consumption as a percentage of gross domestic expenditure.

Although the current account on the balance of payments remains in deficit, it has improved considerably from negative US\$ 118 million in 1991 to negative US\$ 69.7 million in 1996. The outstanding external public debt and imports of goods and non-factor services as a percentage of GDP are decreasing, and the net international reserves at the central bank are increasing. The rate of inflation has plummeted from 70.3 percent in 1991 to 4.5 percent in 1996. Electricity generation increased by 58.5 percent between 1991 and 1996. The growth rate in the public sector monthly minimum wage has been contained considerably even though the wage level has increased by almost three times in the same period. With the fall in the rate of inflation and the increase in public sector minimum wage there has been some improvement in the economic well-being of those categories of workers.

At the end of 1996 real output in the sugar, rice, livestock, other agriculture, fishing, mining and quarrying, manufacturing, distribution, transportation and communication, and engineering and construction have all increased steadily compared with their 1993 levels.

Public expenditure on education as a percentage of the national budget increased from 1.9 percent in 1991 to 7.3 percent in 1996, while that on health rose from 2.9

percent to 6.3 percent. The number of physicians and nurses per ten thousand of population increase respectively from 2.0 and 5.9 in 1991 to 3.8 and 8.0 in 1996, while the number of hospital beds per ten thousand of population rose from 28.8 in 1991 to 35.9 in 1996.

Although these economic and social indicators are showing a rosy picture, all is not well with the Guyanese economy and the social conditions under which the people live. The extent of the economic and social decay brought about by twenty-eight years of authoritarian rule have placed the living conditions at such low levels that the increases revealed by the data in the 1990s do not represent significant changes in the standard and cost of living. The economy remains high-priced and high-cost and the minimum wage is still insufficient to meet the daily health, nutritional, food, housing, transportation, educational, and other basic needs of the population. The poverty level continues to be well over 35 percent (Canterbury et al 1995).

### ***Bauxite and Gold in the Guyana Economy***

It is estimated that the mineral sector in Guyana will grow by 18.6 percent in 1997 and that 2,285 tonnes of bauxite will be produced, representing a growth of about 3 percent (Guyana Budget 1997). The output of gold is projected in the 1997 budget at 450,000 ounces a growth of 21 percent, while quarry output is expected to grow by 25 percent. Omai is estimated to produce 330,000 ounces or 73.3 percent of gold output in 1997, and the Guyana Metals and Jewelry, 60,000 ounces.

While the state-owned bauxite sector is slow to return to profitability, the gold industry is relatively profitable. Omai for example has experienced an expansion in reserves (from 2.469 million ounces *in situ* at the end of 1993 to 3.261 million ounces by 1996); an increase in plant efficiency (from 1.8 grams per tones ore in 1993 to 1.9 grams per tones, a low yield by international standard); increasing recovery rate (from 90 percent in 1994 to 91 percent in 1995); a decline in cost of production (from US\$ 259 per ounce in 1993 to US\$ 224 per ounce in 1995); and better prices (forward sales on gold at fixed prices), hedging transactions (a combination of gold loans, spot deferred, forward sales and option contracts) to provide a floor price for future output thus protecting future output (Thomas 1996). As a result, the company has earned a significant premium over the market price through these operations.

While employment in the bauxite industry has decreased due to the recovery program, the level of employment in the gold sector has increased with the opening of Omai which employed about 788 nationals and 113 expatriates in 1994. The bauxite company provides more infrastructure than Omai due to the fact that a company town was established at Linden. Although Omai's official policy, like that of the bauxite company in its early years of operations, does not encourage the development of communities close by to its mining site, it is involved in the provision of a range of community services to residents living in the upper Essequibo river area.

Omai maintains the dry-weather road from Linden to its mining site. This road is utilized by loggers and other forestry products firms and workers, pork-knockers, campers, and government officials at no cost. In addition to the road, the company maintains an airstrip and wharves at a combined expenditure of US\$ 5.2 million between 1991 and 1993. Omai provides fortnightly malaria services to neighboring indigenous peoples and residents at Tumatumari about twelve miles up-stream. Although there are no close communities to Omai, the company's medical team provides emergency treatment to any seriously ill person who shows up at the site seeking help. The company uses its Medivac air services to evacuate gravely ill persons from Tumatumari and other areas to the capital city of Georgetown and to even as far as Barbados in the West Indies. Medivac also responds to accidents on the Mabura Road and in other areas. The free telephone service provided by Omai is often used by non-workers to make contact with their relatives in other parts of the country in cases of emergency. Omai provides its workers with free housing, telephone services, cable television, subsidized canteen facilities, emergency medical services, and recreational facilities. Workers are also sent on training courses overseas. The company sponsors sporting events and gives monetary and other gifts to national institutions. For example, two months ago Omai donated \$G 400,000 worth of tee-shirts, vests, shotguns and ammunition, and flashlights and batteries to the Guyana Police Force for distribution to the Community Policing Groups around the country. Both companies provide much infrastructure

In 1993 Omai contributed over 20 percent of the growth in Guyana's GDP. For the period 1991–1993 the company paid to the Guyanese government a total of US\$ 5 million in duty and consumption tax. Revenue payments totaled US\$ 7 million in 1993 of which US\$ 3.8 million were royalties, US\$ 2.9 million in employee income tax (expatriate nationals enjoy tax exemptions) and US\$ 0.2 million in duties and consumption tax (Omai 1994). In 1994 alone the royalties earned by the Guyanese government from Omai amounted to approximately US\$ 4.8 million. Omai's contribution to the domestic economy also comes through the firm's purchase of local goods and services, including fuel supplies, food, aviation services, accommodation, and other services. Between 1991 and 1993 the estimated cost of these goods and services was US\$ 14.2 million.

### ***Mining Tax Regime***

The mining tax regime in Guyana is consists of royalties, income tax, duties and consumption taxes, and tax rules established by the Omai Gold Mining Project Mineral agreement (Parsons 1996). The Omai agreement allows for a variation in the taxes paid by the company compared with the general tax regime applicable to the mining sector. Omai benefits from an income tax rate of 33.75 percent during its first seven years of operations, thereafter which it becomes 35 percent (which is the normal tax rate for other mining companies); a 6.25 percent withholding tax rate on dividends instead of the normal 15 percent rate; and a formula which reduces its withholding tax liability as it expands operations

Parsons concluded that “notwithstanding these particular tax features, the tax burden borne by the Omai mine should be substantially the same as the burden that mine would bear if it was subject to the rules of general application” (ibid 1996). While the 5 percent “free equity” (Guyana government's shares in the company) may be regarded as a form of taxation, the 5 percent royalty lowers Guyana's internal rate of return comparison with Chile, Bolivia, Peru, Venezuela, the United States, Canada, Brazil, Mexico, Botswana, Argentina, and Australia (ibid 1996). These factors erode the competitiveness of Guyana's income tax, depreciation and amortization rates. Parsons expressed the general view, however, that “Guyana's mining tax regime is not seriously out of balance” with those in place globally.

In January 1997, after four years of studies, consultation, and consideration, a new mineral policy was announced in a document entitled “Government Policy for Exploration and Development of Mineral and Petroleum Resources of Guyana”. The policy is aimed at giving a sufficiently attractive rate of return to investors and establishing a reasonable split of net benefits between investors and the government. With the new policy there is a standard fiscal regime for mining and a minimum of discretionary features, which will be reviewed in every five or more years. The royalty on large-scale prospecting and mining gold, precious metals, diamonds and precious stones remains at five percent of production or gross revenues. Income tax continues to be levied at a rate of 35 percent while depreciation is fixed at 20 percent straight line.

The new policy offers to license holders and contractors a zero rating of duties and consumption tax on all equipment, process materials and spares to be used during and in the course of surveys, prospecting, and mining. Food and beverages are not included in those concessions. However, a 10 percent consumption tax is placed on fuel, and withholding tax has been set at 6.25 percent of dividends. These conditions are the same for bauxite mining except that the royalty is 1.5 percent of gross revenue or product cost leaving the plant. This lower royalty is intended as an incentive to stimulate mining in the bauxite sub-sector.

Zero rating conditions have also been extended to small and medium scale mining operators. The policy maintains the existing regime of royalty payments of five percent for gold, three percent for diamonds, plus two percent in lieu of income tax for small and medium scale mining firms. The royalty on sand and stone remains at three percent ad valorem.

The new mineral policy was followed by the de-regulation of gold export in April 1997, after due pressure from the sector, when the government approved eight new gold dealers to buy and export the commodity on a one-year trial basis. Regulations for dealers to buy and export gold were under review and expected to be implemented soon. This arrangement will be made permanent based on the success of the trial effort to curtail gold smuggling and to boost gold revenue. Previously only the Guyana Gold Board and Omai Gold Mines were authorized gold deals. Firms who had their applications to become gold dealers rejected either did not meet the government criteria

or their owners were before the Guyanese court charged with involvement in a billion-dollar gold smuggling scam uncovered with the cooperation of the United States authorities.

### **Labor and Environmental Legislation And Mining**

The main focus of regulations in Guyana's mineral sector is on ownership and authority over resources, protection of private property, claims and capital, regulation of labor, indigenous peoples' rights, environment, dispute resolution, revenue, and other economic concerns (Mars 1995). The Guyana Geology and Mines Commission, the Guyana Gold Board, the Mining Act 65:01 in 1977, the recently published government policy for the exploration and development of mineral and petroleum resources of Guyana, and the Omai mining agreement are some of the key institutional arrangements regarding the regulation of the mineral sector.

#### ***Labor Legislation***

Guyana's mineral sector is affected by a number of labor laws and regulations. These include trade union recognition and collective bargaining which may determine wages, employee benefits and conditions of work, statutory fringe benefits derived through the National Insurance Scheme Act, protective clothing provided under the Factories Act, and vacation leave provided under the Holidays With Pay Act. The Accidental Deaths and Workmen's Injuries (Compensation) Act provides for damages in cases of accidental death and personal injury inclusive of all other benefits received. The Employment of Young Persons and Children Act prohibits the employment of persons under 14 years, while the Equal Rights Act provides that there should be no discrimination in terms of pay and benefits between males and females performing the same task. The Industrial Training Act regulates Apprenticeship Schemes.

#### ***Environmental Legislation***

There are a number of government ministries and agencies responsible for different aspects of environmental management in Guyana. The Ministry of Health is concerned with environmental health and vector control. The Guyana Water Authority focuses on water supply, sewerage and sewerage disposal systems, while the Georgetown Sewerage and Water Commission does the same for the city of Georgetown. The Ministry of Labor concentrates on occupational health and safety while the Ministry of Works and Communication is responsible for water resources, hydropower, drainage, and development projects. The Ministry of Housing is concerned with the environmental aspects of housing, and the Ministry of Agriculture is responsible for livestock, river flow, sea defense and fisheries. The Guyana Sugar Corporation and the Sugar Industry Labor Welfare Fund deal with the control and management of water conservancies and housing villages bordering sugar estates, while the Linden Mining Company is concerned with the water supply system for Linden. The Forestry Commission is concerned with

forestry resources, and the Guyana Defense Force with surveillance and protection of Marine resources.

The recently enacted Environmental Protection Act established an Environmental Protection Agency with wide ranging powers concerning the protection of the environment, including the conducting of Environmental Impact Assessment of development and other projects. A Toxic Chemicals Control Board is being established as a part of the new environmental regulations.

### **Consultative Processes in Bauxite and Gold Sectors**

The consultative processes between the mining companies and the Guyana government during the privatization of the bauxite management and the opening of Omai Gold Mines limited have been kept a closely guarded secret. Both the bauxite management contract and the Omai Mining Agreement were negotiated by the People's National Congress (PNC) government which was well known for its authoritarianism and secrecy. Although in 1988 the PNC government entered into an economic adjustment program with the International Monetary Fund and World Bank group, which led it to liberalize and open-up the economy, polity, and society, it was still notorious for its secrecy. It was not until after the change in government in 1992 that the contents of the Minproc management contract and the Omai Mining Agreement became public.

The consultation process between the government and gold mining firms is ongoing. For example, the Omai Mine Mineral Agreement is being suggested as a model for large scale mineral development in Guyana. During 1995 the government discussed with the mining industry a number of fiscal regime policies which would set out clearly a unified fiscal regime for mining. Cathedral and other companies active in Guyana were involved in this consultation process and are encouraged by the new mineral policy and fiscal measures to stimulate the mining sector. Several steps, including the reduction of import duties on mining equipment, have already been taken during 1996, and, in the 1997 budget a number of machinery and equipment items have been added to the zero rated list.

### **Local and Indigenous Communities in the Consultation Process**

Local and indigenous communities had a minimal role in the consultation process regarding the privatization of the bauxite management and the opening of Omai Gold Mines Limited. The Guyanese business, labor, non-governmental organization (NGO), and indigenous communities had no clearly identifiable role in the consultation processes. The Guyanese government conducted its negotiations with Minproc and Golden Star Resources by itself, excluding private, business, labor, NGO, and indigenous community interests.

This lack of consultation has been the cause of much speculation and suspicion about the Minproc management contract and the Omai Mining Agreement. As leaks of

the Minproc management contract were made, a number of concerns were expressed by the community about the qualifications of the managers, their suitability for the job that they were supposed to do, and their comparatively exorbitant and disproportionate salaries and benefits conditions. Most importantly, information surfaced about individual Minproc managers which led members in the bauxite community to believe that the true role of Minproc was to shut-down the bauxite company rather than to turn it around economically. Information was obtained from the curriculum vitae of a Minproc manager that he had participated successfully in the closure of a mining operation in Liberia. This led members of the bauxite community to believe that the Minproc managers were experts at closing mining operations without any serious industrial, political, or social conflict.

A University of Guyana/Dalhousie University research project on Industrial Social Welfare Benefits (ISWB), funded by the International Development Research Centre, although not officially involved in the privatization process at Linmine, played an important role in increasing the awareness of NGOs, community based organizations and residents in the bauxite community about the consequences of the sale of the company. Community organizations were assembled and group discussions were conducted on various issues concerning the privatization of Linmine. The main concern of the community was the perceived loss of community non-wage benefits if Linmine was sold to a private owner. In the face of a real threat of Linmine's closure and the loss of company provided community benefits, the ISWB project encouraged the community to think about possible alternative means of sustainable existence. Through their own initiative an umbrella NGO body emerged from the series of community meetings organized at Linden by the ISWB project to assess the benefits that Linmine provided to the area. The umbrella NGO had set itself the task of addressing the problem of the loss of company provided community benefits in the event of the privatization of Linmine.

In the gold industry there was no effective consultation with local and indigenous peoples in the opening of Omai Gold Mines. Although Golden Star Resources conducted studies on the impact of gold mining on local communities, this was not a real substitute for community consultation. In that process, however, a number of community concerns were identified, including (i) the pork-knockers' complaint that the Company cuts lines through their claims without either their permission or the courtesy of an explanation; (ii) the arbitrariness and unfairness of the price fixing mechanism adopted by the Company in buying up claims held by pork-knockers; (iii) the drilling for samples on pork-knockers' claims without paying them or sharing information with them; (iv) the pushing of pork-knockers further away into the bush; (v) the non-assistance to pork-knockers in times of distress; (vi) the pollution of rivers and creeks by large firms like Golden Star Resources; and (vii) the belief that Golden Star Resources was like a law unto itself (Mars 1990).

Communities neighboring Golden Star Resources operations at Mahdia, for example, complained about the secret nature of the firm's operations; the lack of any

effort on the part of the government to educate communities about the arrangements with the gold company; the appearance that the government was giving away the land cheaply to foreigners without due regards to the rights of local citizens; and the reinforcement by the Company of the perceived lack of ambition of the young men and women in the area beyond quick money making activities, including prostitution (ibid 1990).

Although indigenous communities are profoundly affected by gold mining, the Amerindians have no voice in the consultative process concerning the exploitation of precious minerals in their villages. Forte observed that "there are no established mechanisms to allow Amerindian leaders to meet periodically with officials of the state and the gold mining industry to ventilate concerns and receive information on local or national developments" (Forte 1995). The focus of consultation between miners and indigenous peoples will undoubtedly be on "the urgent need for the settlement of outstanding land claims, a mechanism for consultation as well as direct developmental benefits from some royalties and other payments accruing to central Government from interior-based industries" (ibid 1995).

Following a proposed ban on missile dredging by the President of Guyana in response to complaints about the environmentally destructive nature of that mining technology, and his recantation due to pressure from the Guyana Gold and Diamond Miners Association, "the mining bosses began to explore various means of collaboration with local power holders, generally Captains and Village Councils, in mineral-rich villages in the Upper Mazaruni" (ibid 1995). This new approach at "consultation/collaboration" has led to "a number of variations in mining operations e.g., partnerships with Amerindians in mining in exchange for the 5 percent gross earnings paid to village councils" (ibid 1995). Consultation/collaboration has to some extent silenced the indigenous people's complaints about mining through a process of co-optation of the leaders.

This trend of local or regional government co-optation is also evident with regards to large-scale gold mining. For example, Golden Star Resources made significant contributions to the success of the Regional Administrative Authority's programs at Mahdia, in areas such as agriculture, social services, pure water supply, the clearing of wild vegetation and young forest, senior citizens care, community self-help projects, transportation, and health (Mars 1990). Furthermore, as central government funding dried up, and lacking any money of its own, the local government became dependent on Golden Star Resources' financial contributions for mining privileges (ibid 1990). The company also loaned to the local authority its vehicles and drivers to transport central government officials who visited the area. Although there was this heavy dependence by the local government on Golden Star Resources, both local and central government officials at the Ministry of Regional Development noted that "there is a lack of any coordinating linkages between the administration and Golden Star management with respect to mutually beneficial decisions and policies affecting the region as a whole"

(Ibid 1990). Such conditions of dependence severely curtail the effectiveness of both central and local governments regarding regulation and control in the mineral sector.

### **Indigenous Peoples—Special Rights and Procedures**

Special procedures and rights regarding Guyanese indigenous peoples (Arawak, Akawaio, Arecuna, Carib, Makushi, Patamona, Wapisiana, Warao, and Waiwai) — currently numbering 55,000—were put in place by the colonial government which kept them on reservations. Since Guyana won its independence in 1966 a promise was made to integrate the indigenous peoples fully into the Guyanese economy, polity, and society. They were promised legal titles to the lands which they occupy. The gold mining statutes recognize indigenous peoples “as a privileged group with rights to prospect for gold on their titled lands without necessarily obtaining a government license” (Mars 1995). These rights, however, are curtailed by certain conditionalities, such as the requisite survey to demarcate boundaries and specified population levels associated with the granting of land titles (ibid 1995). Indigenous peoples are disqualified from holding land titles mainly due to a lack of surveys to establish proper boundaries. As a consequence, small, medium, and large-scale gold miners encroach with impunity on Amerindian lands. The protection of indigenous peoples in the wake of gold shouts have always been “tempered by economic considerations” (Forte 1995).

Despite their special treatment the indigenous peoples in Guyana are severely affected by mining in terms of linguistic, social, and economic dislocations. These effects include a disruption and disappearance of their fishing and farming grounds and languages, the prevalence of new diseases such as AIDS, flooding, pollution of rivers and creeks, depopulation, and a degraded environment. In some cases indigenous peoples are considered squatters on their own land, experience poor education/school conditions, veiled racism, malaria, lack of piped water and electricity, and are paid poor salaries.

In recent times the indigenous people’s problems have been multiplying in the gold mining sector. The increase in female-headed indigenous households; the non unionization of Amerindian workers; a lack of medical schemes; no industrial social welfare benefits; conspicuous consumption by some Amerindians; the decrease in subsistence agriculture caused by the absence of men due to their new mining activities; the dominance of the mining culture; the ascendancy of mining interest over all others; miners fathering many children by different women; the location of school, rum shop, and discos in the same place; a high incidence of teen-age pregnancy; the introduction and use of hard drugs among school children; and the presence of the HIV virus are all issues identified by Forte (1995).

The NGO community has been playing a small role in the gold mining sector regarding the rights of indigenous peoples, the environment, and other social conditions. For example, the activities of the Upper Mazaruni Christian Council, an umbrella NGO, caused the President to promise a ban on missile dredging, and has led to some positive

changes in gold mining in the Upper Mazaruni area. The Guyana Human Rights Association, the Amerindian People's Association, and the Guyanese Organization of Indigenous Peoples are some of the NGOs which address indigenous people's concerns in Guyana. The Guyana Environmental Monitoring Committee is also actively representing the environmental lobby against the destruction of Guyana's environment. The Omai cyanide spill has also led to the formation of NGOs such as the National Committee for the Defense Against Omai.

Although the Guyana government established a Ministry of Amerindian Affairs in 1992, there is a lack of a well formulated and coherent indigenous people's policy. The Minister was appointed without any terms of reference or budgetary allocation. In the 1997 budget, however, G\$ 110 million was allocated for indigenous peoples, G\$ 50 million of which is for boundary surveys of titled lands and the training of surveyors. In 1996 the Ministry of Amerindian Affairs handed over G\$ 42 million worth of machinery and equipment including 2 tractors, 2 trailers, 30 chainsaws, 26 outboard motors, 3,500 axes, 3,500 hoes, 3,500 files, 3,500 cutlasses, one motor cycle, one pick-up truck, and parts for a mobile saw mill, for community economic development purposes. Notice the emphasis on the basic type of technologies—axes, cutlasses, and hoes—used by indigenous peoples for agricultural production. Although the culture and language of indigenous peoples are under further threat from gold mining, there is no Amerindian curriculum which take into account their culture and their nine languages.

### **Dispute Resolution**

The dispute resolution process in the mineral sector is contained in the Mineral Act. This process is mainly concerned with conflicts and challenges over claims and boundary demarcations. The Minister with the responsibility for mining "has overriding authority to make regulations governing the settlement of disputes, while the Commissioner of Geology and Mines or any officer appointed by him/her has power to adjudicate and settle disputes" (Mars 1995). The dispute resolution mechanism provides for complaints by offended party or mines' officers, the official filing of complaints in writing, payment of fees, ordering of surveys, adjudication, and appeals. Decisions of the Commissioner of Geology and Mines or his official are final, but they may be overturned by the high court of judicature.

### **Conflicts: Indigenous Versus Non-Indigenous Local Communities**

Conflict between indigenous peoples and non-indigenous peoples (Coastlanders) have been ongoing for years. The basic conflict between indigenous and non-indigenous peoples stems from cultural differences, including the ownership of land. Amerindians have always complained about the loud nature of Coastlanders who disturb the tranquillity of their interior locations (Forte 1995). The use of natural resources such as creeks are also a source of conflict. Aborigines are very much concerned about the personal hygiene habits of Coastlanders' such as bathing, washing, brushing of teeth, and

waste disposal, including excretion of bowels, which pollute the creeks they use for domestic purposes. Coastlanders also engage in the sexual exploitation of Aboriginal women, another source of conflict with the men. Nevertheless, the major conflict is over land.

Amerindians abhor the fact that many of them have been relegated to the status of squatters on their own land. Since the Rupununi uprising in 1968, in which indigenous peoples attempted to cede a part of Guyana, the only other major conflict of consequence took place in West Watooka in 1994. The land dispute in this community between indigenous and non-indigenous peoples came to a head when the Houselots Committee of the Regional Democratic Council (RDC) at Linden announced that it had identified farming grounds in West Watooka for residential construction for non-indigenous peoples. The Houselots Committee had failed to recognize that the indigenous peoples who inhabit the area used the land as farming ground. This land conflict, however, was reportedly engineered by the PNC-dominated RDC at Linden, who exploited the fact that the lone PPP Councilor on the RDC was appointed by the Minister of Agriculture to chair the Regional Land Selection Committee. The announcement that West Watooka farmlands would be converted to housing, with the impression that indigenous peoples will be displaced, caused the RDC to accuse the government of circumventing established regional administrative mechanisms regarding land distribution. Aboriginals were encouraged to demonstrate, which they did, drawing national media coverage.

## **Conclusion**

The recent increase in gold production is rapidly converting Guyana into a mineral economy. At the same time, it has given rise to a number of concerns about the fragile eco-system, the local communities in the mining regions, and incidents involving mining operations. Since colonial times the mainstay of the Guyana economy has been sugar, rice, and bauxite. However, since the Omai Gold Mines Limited commenced production, gold seems set to replace sugar, rice, and bauxite as the single largest contributor to the Gross Domestic Product. If this trend continues it would represent the most significant economic event in Guyana in its post-colonial period. As a potential mineral based economy emerges in Guyana, macroeconomic policy must focus on the aversion of "Dutch Disease" to ensure balanced sectoral development through political, budgetary, and regulatory stability.

Labor and environmental regulations applicable to the mining sector in Guyana seem to be well tailored to national and private interests. The new mineral policy, for example, grants a wide range of concessions geared towards the stimulation of mining activities by private investors. However, the government is ill-equipped to enforce its own labor and environmental regulations due to a lack of adequate financing and human resources. It is difficult to anticipate that under such conditions of inadequate resources that a sustainable mining industry will develop in Guyana.

The secrecy of the negotiation processes in the privatization of the bauxite management and the Omai mineral agreement is not compatible with the principle of informed participation, nor does it foster any respect for Amerindians' dignity, human rights, and cultural uniqueness. The present and future governments must enshrine appropriate mechanisms to continue an open and democratic involvement of civil society organizations, the private sector, labor organizations, and local communities in the consultative processes in the mineral sector.

Although there are special statutory procedures and rights regarding indigenous peoples, mining companies and non-indigenous legal and illegal miners still encroach on their lands, which are unprotected, poorly demarcated, and untitled. The dispute resolution process in place, which empowers the Commissioner of Geology and Mines or his/her agent to resolve disputes, subject to appeal to the law courts, cannot redress the land title problem faced by indigenous peoples. There is an urgent need to survey Amerindians' lands, issue them with titles and legalize their traditional land rights. These measures will reduce land disputes, a major source of conflict between indigenous and non-indigenous peoples.

It is evident from its current openness that the present Guyana government has the will to improve on the consultation process in Guyana. The government needs, however, more financial and material support to enable it to establish the appropriate consultative mechanisms between itself, mining firms, local and indigenous communities, NGOs, labor, business, and other interests in the mining sector. Labor and environmental regulations and the dispute resolution processes cannot be properly and fairly enforced in the absence of qualified personnel and the requisite equipment and infrastructure necessary for their success. The government also needs to ensure proper and efficient management of resources allocated to enforce the consultative and regulatory processes in the mining sector.



# 9

## Mining Related Social and Cultural Issues: The East Asian Perspective

Dr. Allen L. Clark, Director, Minerals Policy,  
Legislation and Environment Program, East-West Center, Honolulu, USA.

### Introduction

A recent study of the ranking (1=most important and 7=least) of issues impacting international mining companies by Clark (1997, Table 1)—reproduced here as Table 9.1—shows that although land access and land tenure issues remain the greatest concern of mining companies, social and cultural issues rank second in importance internationally and third in importance domestically. The rapidly rising importance of social and cultural issues—such issues were not ranked in a corporate survey in 1990—and the need to deal effectively with such issues both domestically and internationally represents a clear and major structural change within the mining industry.

**Table 9.1: Major Issues of Concern for the Mining Industry**

Issue	Ranking														
	Domestic							International							
	High			Low				High			Low				
Land access and land tenure	1									1					
Changing mining policy and legislation		2									3				
Social and cultural issues			3							2					
Non-governmental organizations				4									5		
Environmental requirements					5									6	
Capital acquisition						6									7
Corruption							7					4			

There can be little doubt that the importance of these issues has been made even more apparent by the recent closure of the Bougainville mine, in large part as a result of social

and cultural issues. Similarly, the social, cultural, and environmental impact of the recent Marcopper tailings spill in the Philippines has shown that such issues may also result in substantial changes in policy and legislation that significantly impact the industry. A large proportion of the land and access issues are related directly to social and cultural issues surrounding unresolved land claims, particularly in Australia and Canada. However, social and cultural issues related to land access and tenure are not restricted to the developing countries, and indeed such issues are assuming larger and larger importance internationally, for instance in Brazil, China (Xinjiang), Costa Rica, Fiji, Ghana, Indonesia, Papua New Guinea, and Venezuela.

The slight discrepancy between the ranked importance of social and cultural issues domestically (ranked third) and internationally (ranked second) is attributed to the fact that (a) procedures and requirements for dealing with social and cultural issues are better established for domestic operations and (b) most companies have, or are rapidly gaining, a fairly extensive background of dealing with such issues. Internationally, the priority of social and cultural issues, has risen dramatically, for three main reasons.

First, a larger and larger portion of exploration and development is being conducted in developing countries as shown in Table 9.2 (Clark, 1997). In Table 9.2 a ranking of 1 indicates the level of expenditure by the majority (>65 percent) of major mining companies and 2 represents the most common level of investment by other companies. This dramatic shift is primarily represented by a transfer of exploration and development activity from Australia, Canada, and the United States to South America and East Asia.

**Table 9.2: Structural Shift in Exploration Expenditures**

Time Period	Exploration Expenditures in Developing Countries				
	0-20 %	21-40 %	41-60 %	61-80 %	81-100 %
1960-1969	1		2		
1970-1979	1	2			
1980-1989	1	2			
1990-2000		1	2		
2000-2010			1	2	

Perhaps more important than the overall shift of exploration expenditures to the developing countries is the rapidity and magnitude of the change that is occurring. As can be seen from Table 9.2, it is estimated that within the next decade approximately 50-60 percent of all exploration expenditures will be in developing countries as opposed to approximately 10 percent during the 1980s. The major reasons for this dramatic change has been: (1) the adoption by many mineral-rich nations of modern mining laws and

policies encouraging private sector investment; (2) the opening up of major new areas for exploration in the developing countries; and (3) perhaps most importantly, the ongoing discovery and development of significant new and major mineral deposits within the developing countries. Regardless of the causes, the trend toward larger exploration expenditures by the major corporations in the developing countries places the companies in increased contact with a diverse spectrum of social and cultural issues for which most mining companies are relatively poorly equipped to deal.

Secondly, in the past the majority of social and cultural issues were left, to a large extent, to the host government to deal with and the primary focus of the company was to deal with the social and cultural issues only in the immediate vicinity of the mine. This relationship and division of responsibility between government and the mining company is changing rapidly in many countries with the predominant trend being for the mining company to assume a broader range of responsibility, locally and regionally, with respect to social and cultural issues.

Third, in large part related to the two issues above, is the emerging realization that a mining company needs to take a more pro-active approach in dealing with social and cultural issues, beginning with initial activities during exploration and continuing through mine closure, and in some cases the company may have to assume, with the government's permission and assistance, the surrogate role of local government in dealing with a broad range of social and cultural issues.

To effectively deal with the rapidly increasing emerging social and cultural issues that are facing the mining industry today, there is a need to develop an understanding of the key elements that must be addressed and the inter-relations of social and cultural issues with other issues (environment, sustainable development, economic, and social change). Secondly, there is a need to understand and define the changing role that industry must take in effectively dealing with the social and cultural impacts of large scale mining activities.

The developing countries of East Asia, in particularly Southeast Asia, will become the focus of a large proportion of future international mineral exploration and development, second behind the developing countries of South America (Clark, 1997). The relative ranking (1=greatest potential and 8=least potential) of the mineral development potential of selected countries in East Asia are shown in Table 9.3 (Clark, 1997).

The mineral development potential of both Indonesia and the Philippines is ranked very high but for slightly different reasons. In the case of Indonesia, the high ranking is based largely on a high level of exploration success, the size and grade of recent discoveries, and an improved knowledge of regional geology—all of which is relatively recent. Conversely, in the case of the Philippines, there is a relatively long history of mining and mineral development in gold and base metals, which when combined with the known geology and mineral occurrences, provides a strong basis for the ranking.

**Table 9.3: Mineral Development Potential of East Asian Nations**

Region/Country	Ranking							
Southeast Asia	High							Low
Indonesia	1							
Philippines		2						
Myanmar			3					
Malaysia				4				
Thailand					5			
Vietnam						6		
Laos							7	
Cambodia								8

The mineral development potential of both Myanmar and Malaysia are ranked significantly higher than might be expected from previous evaluations and to a large extent this can be directly attributed to (a) the “open door” policies of the countries, (b) the implementation of new mining policies (and in the case of Myanmar a new mining law), and (c) increased information on the countries and their mineral potential.

For the remainder of the countries of the region, the geologic potential is considered highest in gold, copper, zinc, and lead respectively. However, overall the potential for large deposits is considered to be only moderate to poor in the countries of Indochina (Cambodia, Laos, and Vietnam) region.

The following discussion addresses the spectrum of social and cultural problems that companies are facing, largely from the perspective of indigenous peoples, and will face in the future as mineral development in East Asia increases. Although it is recognized that the social and cultural issues associated with mineral development are by no means limited to indigenous peoples, in East Asia the social and cultural issues surrounding indigenous peoples are representative of those faced by other communities.

To exemplify the diversity of social and cultural issues facing mineral development in the East Asia area it is instructive to initially contrast the legacy, the present, and the future of minerals development in two Southeast Asian countries—the Philippines and Vietnam.

### **Mineral Development Factors of the Philippines and Vietnam**

The Philippines and Vietnam have been selected for discussion in this paper as they represent very striking differences in terms of their form of government, mining history, resource endowment, level of development, social and cultural policy, and the levels of influence within the countries of international and regional agencies and NGOs. As a result of these differences the two nations present very different environments for

international mining companies wishing to undertake mineral development projects. These differing environments are representative, to a greater or lesser extent, of the spectrum of variations that the mineral industry faces throughout the nations of East Asia. Thus, the comparison of the Philippines and Vietnam provides an overview of the diversity of social and cultural issues to be addressed in mineral development throughout the region.

In Table 9.4 some of the major factors which have influenced and continue to influence mineral development and social and cultural issues in the Philippines and Vietnam are presented. This listing is by no means complete and a large number of additional issues, such as colonial history, historical land allocation, capacity for participation in mineral development (health and education), religious structure, health and education and areas of armed conflict could be added (Clark, 1994) and discussed. The five areas selected for discussion are felt to provide a sufficiently broad spectrum of issues to allow for an understanding of the range of factors and to provide a basis for comparison of the two countries.

### **Basic National Attributes and Social Cultural Issues**

Perhaps the most significant contrast between the Philippines and Vietnam is the fact that the Philippines is an archipelago nation, composed of over 1,000 islands and Vietnam is essentially a geographically homogeneous country bordered on the East by the South China Sea and on the north, west, and south by China, Lao People's Democratic Republic, and Cambodia, respectively.

The social and cultural importance of this geographic difference lies primarily with respect to the migration of indigenous peoples. In Vietnam a large proportion of indigenous peoples (ethnic minorities) have been displaced from traditional lands as a result of resource development, government resettlement programs, and by economic development activities. The tendency has been for the displaced indigenous peoples to migrate, through the central highlands of Vietnam and along the Lao People's Democratic Republic border with Vietnam to the southern central highlands area of Vietnam. In the Philippines, although many of the pressures on the indigenous peoples are similar, the result has not been large scale migration but rather a process of marginalization and concentration of the indigenous peoples into smaller and smaller areas within the same province. In both the Philippines and Vietnam the impact of resource development, particularly mining and forestry, on the indigenous peoples has been large with the greatest impacts in the loss of traditional lands and lifestyles.

Although the Philippines and Vietnam have very different levels of economic development, both nations are characterized by their economies being: (a) predominately agricultural based with a substantial proportion of swidden agriculture in more inaccessible areas; (b) with rapidly growing populations and resultant high population

**Table 9.4: Key Elements Impacting Social and Cultural Issues related to Mining**

<b>Philippines</b>	<b>Vietnam</b>
<b>Basic National Attributes</b>	<b>Basic National Attributes</b>
Archipelago	Land-water border
Emerging economy	Less developed country
Moderate to densely populated	Densely populated
Swidden/plantation agriculture	Swidden/paddy agriculture
Diversified industrial base	Limited industrial base
<b>Government</b>	<b>Government</b>
Democracy	Socialist
Increasing decentralization	Highly centralized
People empowerment	Controlled inputs
<b>Mineral Development Attributes</b>	<b>Mineral Development Attributes</b>
High resource potential	Limited resource potential
New mining law	New mining law
Private sector mining history	State mining enterprise history
History of private land issues	Government controlled land issues
Forestry policy limits mining	Forestry policy allows mining
<b>Indigenous People</b>	<b>Indigenous People</b>
Recognition of indigenous peoples	Limited recognition of indigenous peoples
Recognition of indigenous rights	Limited recognition of indigenous rights
Recognition of indigenous land rights	No recognition of indigenous land rights
Migration of Filipinos	Migration of indigenous people
Requires a social-cultural evaluation	Does not require social-cultural evaluation
<b>Non-Governmental Organizations</b>	<b>Non-Governmental Organizations</b>
Large number of active NGOs	Limited number of NGOs
Grassroots and very active	Limited access and controlled

densities; (c) high levels of unemployment or under-employment; and (d) rapidly expanding industrial sectors. All of these factors directly and indirectly impact on the social and cultural components of mineral development projects, and in both countries the results are essentially the same.

First, as a result of the predominately agricultural base of the countries issues of land access and ownership, water quality, and rehabilitation are critical to the urban, agrarian, and indigenous populations. These issues are further heightened by the expanding population base, which puts tremendous pressure on the agrarian sector, and the expanding industrial base and its associated infrastructure which competes for scarce land: a system in which mining becomes just one more competitor for scarce land. A major component of this competition for land is the expansion of swidden agriculture, largely into areas previously occupied by indigenous peoples, which in both countries leads to disenfranchisement from the land.

Second, rapid urbanization and associated high levels of unemployment and under employment in both nations has resulted in ever increasing problems for mineral development projects. In particular, such projects act as “magnets” for substantial in-migration and resultant “squatter” problems, often disrupting existing social and cultural traditions in and around the areas of mineral development. These attendant social and cultural problems, resulting largely from the lack of adequate administrative and physical infrastructure, often result in the mining activity having to assume the role of a surrogate government as it attempts to resolve the myriad of issues arising between the local communities and the in-migrating populations—this is often the case in the Philippines. Alternatively, as in the case of Vietnam, the government may play an active role in resolving social and cultural issues, however, often to the detriment of the indigenous peoples.

Third, the rapidly expanding industrial sector and overall economic growth in both the Philippines and Vietnam places a great deal of emphasis on the development of the minerals sector as both a foreign exchange earner and as a supplier of raw materials to meet the demands of rapid growth. As a result of this emphasis on mineral development, and the lack of government capacity to oversee such development, the mining company is often caught between the government, NGOs, and local communities without a clear national mandate as to how to best proceed on social and cultural issues.

### **Government Structure and Social and Cultural Issues**

The Philippines was one of the first true democracy's in East Asia, whereas, Vietnam is an emerging nation which retains a centrally planned economy, while opening its doors to private sector investment. The structure of the government in each country has a profound effect on how social and cultural issues are recognized and dealt with in the countries. It should be noted, however, that neither country has yet enacted an indigenous peoples law. In that sense they are quite similar.

The key to understanding the fundamental differences between the two forms of government and their responses to social and cultural issues lies in the principles of “people empowerment” and “decentralization”. The “People Power” movement of the Philippines, which led to a new Constitution of 1984, permanently set forth the dual concepts of the “power of the people” and “decentralization” of political and economic power away from the national government and to the local government organizations. As a result, any mining company who wishes to work in the Philippines has a major obligation to work across all levels of government and with the people themselves in the development of a mineral deposit.

Conversely, although the Constitution of Vietnam places all power in the people, the management of the resources lies solely with the government and little or no actual power over resource development is allotted to the local government units or to the of the mining area. As a result, a mining company deals primarily with the central government and only to a small extent with provincial offices in the development of a mineral deposit. This is not to say that the mining company can ignore the local communities or indigenous peoples, but rather, to emphasize that the actual authority for mineral development rests with the government and not with the affected peoples.

### **Mineral Development Attributes**

As Table 9.3 shows, major mining companies rank the mineral potential of the Philippines much higher than that of Vietnam. Equally important is the fact that in discussions with industry personnel (Clark, 1997) the potential for the discovery of large deposits, particularly for copper and gold, in the Philippines was considered much higher than in Vietnam. This perception of resource potential and the size of deposits has several ramifications with respect to how social and cultural issues will be viewed and dealt with in the individual countries.

First, the prospects for large scale discoveries and developments in the Philippines has led to much of present exploration and development being conducted by the larger domestic and international mining companies. Conversely, in Vietnam the majority of exploration has been undertaken by small to medium sized mining companies. The result of this “skewing” of company interest appears to have had the effect of (a) more attention being paid to social and cultural issues in the early phases of mineral exploration and development in the Philippines (Western Mining and Arimco) and (b) less attention by the junior and medium sized companies in Vietnam. This should not be taken to infer that small to medium sized mining companies are less concerned with social and cultural issues, although this may be true in some cases, but rather, that this is the case in the two countries being compared.

Second, and of special importance, is that both the Philippines and Vietnam have well developed, but quite different, domestic mining companies. In the case of the Philippines the domestic industry was/is a private sector industry with, until the recent passage of the Mining Law of 1995, foreign investment restricted to 40 percent or less.

In the case of Vietnam, until the recent passage of the Mining Law of 1996, all mining was undertaken by state run organizations without private sector involvement. However, mineral development in Vietnam was often a joint enterprise with the former Soviet Union and COMECOM countries, so in that sense there was foreign participation in both countries.

In the past, in both the Philippines and Vietnam, there were few specific requirements placed on the mining industry to deal with social, cultural, and land issues. As a result, the reputation of the mining industry, in dealing with social and cultural issues, is justifiably quite poor. This legacy continues to color public perceptions of the domestic mining industry and international mining industries who may now wish to explore and develop in these countries.

Third, in both countries widespread logging activities have reduced existing stands of forest to less than 25 percent of what they were 2 decades ago. In both the Philippines and Vietnam the social and cultural impacts of this large scale logging has resulted in: (a) the disenfranchisement of many indigenous peoples from their traditional lands and lifestyles; (b) large-scale migration, as discussed previously; and (c) has served as a focal point for community action groups, domestic and international NGOs opposed to resource development projects, including mining.

However, the response to the social and cultural impacts of logging has been quite different in the Philippines and Vietnam. In the Philippines these problems have led to (a) a total ban on logging in most areas and (b) in many areas being set aside and closed to mineral exploration and development. In Vietnam logging activities have also been severely restricted but few areas are excluded from access for exploration and mineral development. In neither country have the environmental, social, and cultural impacts of logging on the local and indigenous communities been effectively addressed. These impacts are readily transferred, in concept and reality, to the impacts of proposed mineral development projects.

### **Indigenous Peoples and Communities**

As alluded to earlier in this paper a primary difference between the Philippines and Vietnam lies in their recognition and treatment of indigenous peoples overall and with regard to the impact of mineral development on indigenous peoples in particular. In both countries the indigenous peoples have been constrained to smaller and smaller areas—in the Philippines to smaller areas of traditional lands, because of the difficulties of migration, and in Vietnam to smaller and smaller areas of non-traditional lands, having been displaced from traditional lands and having migrated to other areas.

Although past mining activities in the Philippines by foreign and domestic mining companies have left much to be desired in terms of dealing with indigenous peoples, the present mining law is very specific in addressing these issues for all future developments. In particular, the provisions of Sections 16 and 17 of the Mining Law of 1995 state:

“Sec. 16. *Opening of Ancestral Lands for Mining Operations.* No ancestral lands shall be opened for mining operations without the prior consent of the indigenous cultural community concerned.

Sec. 17. *Royalty Payments for Indigenous Cultural Communities.* In the event of an agreement with an indigenous cultural community pursuant to the preceding section, the royalty payment, upon utilization of the minerals shall be agreed upon by the parties. The said royalty shall form part of a trust fund for the socio-economic well being of the indigenous cultural community.”

Further it should be noted that, under Department of Energy and Natural Resources Administrative Order No. 63 of 1991, foreign mining companies undertaking mineral exploration and development in the Philippines, under an Financial and Technical Assistance Agreement, are required (Section 10 (I)) to:

“Recognize and respect the rights, customs and traditions of indigenous tribal communities over their ancestral lands.”

In addition to the above, Section 69 of the Mining Law of 1995 requires that a socioeconomic development plan must be part of every contractor’s Environmental Protection and Enhancement Program and Section 71 requires that a mine rehabilitation fund be established for the “....social rehabilitation of areas and communities affected by mining activities.”

In Vietnam the issue of indigenous peoples and their associated land rights has not been addressed by the government and as noted by the author (Clark, 1995), “....a disproportionate amount of all mineral and energy projects are taking place or will take place in or adjacent to those areas with the highest concentration of ethnic minorities... particularly in northern Vietnam and the central highlands.” Indeed the Mining Law of Vietnam specifically states that:

“Article 5, Sec.1. The State encourages investment.....and grants preferential treatment to mineral activities in distant, remote or mountainous areas, areas of poor infrastructure...”.

Unfortunately these are the exact areas to which, over time, the majority of indigenous peoples have migrated.

Although Article 7 of the Mining Law further indicates the priority of mining activity, it does reflect a concern for the most impacted peoples as it states:

“Article 7, Sec 1. :....The State shall appropriate and amount of the budget for the purpose of Socio-economic Development in the locality where Minerals are mined and processed and assist the local people who have to relocate their residence or production facilities.....”

Additionally the Mining Law of Vietnam does not recognize ancestral lands or the need, in most cases, to negotiate with landowners for entry or exploration on lands (Article 17, Section 2).

“Article 17, Sec.2. Organizations and individuals permitted to prospect or explore for minerals shall not be required to lease land for such Mineral prospecting or exploration if such Mineral Prospecting and exploration does not affect the use of the land by the legal landowners.....”.

It is particularly important to note that in the Mining Law of Vietnam the emphasis is placed on compensation and rehabilitation and little or no provision is made for the exclusion of mining activity in the majority of areas (excluding those in Article 15—historical or cultural sites, scenery.....).

Overall the mining laws of the Philippines and Vietnam stand in stark contrast with respect to dealing with social and cultural issues associated with mineral development.

### **Non-Governmental Organizations and Communities**

There can be little doubt that, with a very limited number of exceptions, non-governmental organization's have had a highly adversarial relationship with mining companies and the majority have been strongly opposed to mineral development. Both the historical record of the mining industry and most recently the events at Summitville in the United States, Bougainville in Papua and OK Tedi in New Guinea, and Marcopper in the Philippines have justifiably heightened their concerns with respect to mineral development. Nevertheless, the more progressive governments and mining companies are coming to realize that accommodation must be made for the views of the NGOs. In many instances they can and are being integrated into mineral development projects as substantive and positive partners.

The role that NGOs play in the Philippines and Vietnam can be easily inferred by noting that there are over 16,000 NGOs in the Philippines and less than 400 in Vietnam— in both countries the majority of the NGOs are involved in social programs. Of equal interest is the fact that a majority of the NGOs in the Philippines are operating at the “grassroots” level in the provinces, barangays and communities. In Vietnam, less than 20 percent of the NGOs are allowed to be active at the grassroots level. As a result of these discrepancies, the NGOs of the Philippines play a key role in community building, assuring indigenous rights, and in dealings with the mining companies with respect to mineral developments. Conversely, in Vietnam they have little or no voice in these activities.

### **Summary**

A recent survey of the major mining companies in the Pacific Basin shows that mineral exploration and development is moving from the developed countries (Australia, Canada and the United States) to South America (Chile, Peru, and Venezuela) and East

Asia (Indonesia, Papua New Guinea, and the Philippines). For the majority of East-Asia countries this is a welcomed trend. However, in moving into more exploration and development in the developing nations, the mining industry has identified two key and inter-related areas of concern—land access and land tenure and social and cultural issues. Although land access and land tenure issues are consistently a major concern for the mining industry, the importance and concern for social and cultural issues has arisen largely within the last decade and particularly within the last five years. To a large extent this concern within the major mining companies has arisen for two reasons: (a) the increase in social and cultural issues within their own countries; and (b) an increasing awareness that social and cultural issues are increasing in the developing countries as well, partly as a result of “people empowerment” and “decentralization”.

In East Asia the importance of social and cultural issues in mineral development are dependent on five key factors: (1) the basic attributes of the country; (2) the form of government; (3) the mineral development attributes of the country; (4) the level of recognition of indigenous peoples; and (5) the role of non-governmental organizations. In the present paper these attributes have been discussed with respect to the Philippines and Vietnam, which serve as essentially the mid-points, the Philippines as representative of East Asia Nations with an emerging strong concern for social and cultural issues and Vietnam as exemplary of the level of concern in many of the emerging economies.

The basic attributes of the Philippines and Vietnam are of particular interest in that the archipelago nature of the Philippines has meant that indigenous peoples could not easily migrate to other areas and as a result the indigenous peoples have been constrained to occupying smaller and smaller portions of their ancestral lands. In Vietnam, however, the tendency has been for the indigenous peoples to migrate, particularly from the north to the south-central highlands of the country, and thus leaving their ancestral lands. In both countries, however, the tendency is to restrict the areas occupied by the indigenous peoples and thereby to materially impact both their culture and lifestyles.

The form of government to a large extent determines the role that the communities and peoples will have in influencing and participating in the benefits of a mineral development. In the Philippines the dual concepts of “people empowerment” and “decentralization” has resulted in the communities and indigenous peoples playing a major role in determining the form and impact of a mining development. Conversely, mineral development in Vietnam is still largely controlled by the central government and the role of communities and indigenous peoples is considerably less than in the Philippines. As a result the mining industry has far more contact with, and is more responsive to, the central government than local communities and indigenous peoples in Vietnam.

Mineral development attributes such as resource potential, mineral policy, and the nature of the domestic industry are key determinants of the levels of both the involvement of foreign mining companies and of concern for social and cultural issues. Historically, in both the Philippines and Vietnam the level of foreign participation in

mineral development has been (a) legally limited in the former and (b) restricted to COMECON countries in the latter. Additionally, in both countries the concern of the domestic industry for overall social and cultural development has left a great deal to be desired. Both countries have recently passed new mining laws, the Philippines in 1995 and Vietnam in 1996, which allow for larger involvement of foreign mining companies and require that more effort be made to address social and cultural issues.

Indigenous peoples issues represent one of the most striking differences between the Philippines and Vietnam, although neither country has Indigenous Peoples legislation specifically. Nevertheless, in the Philippines the rights of indigenous peoples, originally set forth in Administrative Order 63 of 1991, was included and strengthened in the Mining Law of 1995. As a result, consultation with and the agreement of indigenous peoples is a requirement for any mining activity on ancestral lands. Additionally, socio-economic impacts of mine development and closure are required components of a mining plan as is the funding of a Rehabilitation Fund to ensure that funds are available to conclude the plans.

Vietnam's Mining law of 1996 deals with social and cultural impacts of mine development in very general terms and does not require that mining companies consult with, or have the concurrence of, indigenous peoples for mineral development and is mute on the issue of ancestral lands.

Non-Governmental Organizations are a major force in the world today with respect to social and cultural issues related to resource development and are strongly opposed to mineral development in most areas. Nevertheless, both enlightened government's and mining companies are beginning to realize that many NGOs can be valuable counterparts in mineral development. At the same time, many NGOs are realizing that they can have a positive role with respect to social and cultural issues. In the future it is believed that a tri-partite Government-Industry-NGO relationship is an essential component of ensuring responsible and sustainable development within which the mineral sector can play a key role.

In the preceding an attempt has been made, utilizing the Philippines and Vietnam as representative countries, to illustrate the common and divergent social and cultural issues that are associated with mineral development in East Asia. It is believed that this comparison, when extended to other countries in East Asia, show that there is a complex interaction of factors that will determine each nation's approach to dealing with social and cultural issues associated with mineral development. What is clear is that the mining industry is faced with defining in each country what activities and level of activity will be required to meet the social and cultural requirements of the host nation as well as their own corporate code of conduct.

## Conclusion and Recommendations

In the preceding an attempt has been made, utilizing the Philippines and Vietnam as representative countries, to illustrate the common and divergent social and cultural issues that are associated with mineral development in East Asia. It is believed that this comparison, when extended to other countries in East Asia, shows that there is a complex interaction of factors that will determine each nation's approach to social and cultural issues associated with mineral development. As a result the mining industry is faced with defining, in each country of East Asia, what activities and level of activity will be required to meet the social and cultural requirements of the host nation as well as their own corporate code of conduct.

Regardless of how individual companies approach social and cultural issues in the individual countries of East Asia, four things appear to be clear:

1. The level of concern for community development and indigenous peoples must be a major component of every phase of mineral development from exploration to, and through, mine closure.
2. Regardless of the country, the social and cultural concerns of the company must equal or exceed those called for by that country **or** must equal the standards of their own country—**whichever is higher**.
3. Social and cultural requirements in mineral development are rapidly changing in the nations of East Asia. As “people empowerment” and “decentralization” gain force, the requirements will only increase over time.
4. The industry must recognize that a tri-partite Government-Industry-NGOs approach to mineral development is both a necessity and perhaps the best way to achieve responsible and sustainable development in which mineral development is a major component.

Regardless of the forces which have brought about the increased awareness of social and cultural issues in mineral development, it is clear that the majority of companies in the mining industry, and most governments, have recognized or are beginning to recognize the problem. It is equally clear that the majority of companies are moving forward both to better understand this complex spectrum of social and cultural problems and to more effectively deal with them. In order to develop an effective response the mining industry, in conjunction with government, has recognized the following:

1. Central to dealing with social-cultural impacts is the need to include those affected in all discussions and planning pertaining to the project—from initiation to final reclamation.
2. New approaches and methodologies for assessing and dealing with social-cultural impacts must be developed. These activities should be supported by

the industry as well as major international funding agencies and must accommodate the inputs of social scientists.

3. Base line cultural studies, which include all communities and indigenous peoples impacted by the planned mineral development, are a necessity and must be undertaken and supported by industry and government.
4. Social-cultural impact statements must be conducted by industry and must provide for continual follow-on analysis as mineral development proceeds and social-cultural systems evolve.
5. Social-cultural impact studies of existing projects should be undertaken and made available for use in resolving or mitigating such impacts in future projects.
6. Training in cultural and social assessments and subsequent implementation and actions should be a major emphasis of industry and government.

These basic approaches represent but the beginning of the definition of needs and responses that are required to deal with the myriad of social and cultural problems that are associated with mineral development in East Asia. The challenge for the future is to expand on our present knowledge and not to repeat the mistakes of the past.



# 10

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## **The Mining Quagmire: Communities and Companies and the Equitable Distribution of Social Benefits and Costs**

**CoDevelopment Canada, Vancouver, Canada.**

Mining activities are, from an anthropological point of view, a clash of cultures. On the one hand, it seems that mining companies are almost exclusively focusing on minimizing costs and, on the other, that mining communities are almost exclusively focusing on maximizing benefits. Both communities and companies are confronting difficulties in trying to achieve their objectives and in satisfying their needs. Their unequal relationship complicates matters because companies are perceived as having “all the power to do as they like,” while communities are judged “incapable of deciding what is best for them”.

Social issues are a case in point. Communities, it is said, are suffering all the negative impacts that mining is causing: from irreversible environmental damage to acute health problems and the degradation of social conditions. Companies, it is said, are reaping huge financial benefits from their activities and showing little concern for the impacts caused by mining: from the destruction of the environment to radical changes in the lifestyles of the communities. The social interests of the communities and indigenous populations are overridden by the economic needs of mining companies, leaving them with hardly any benefits from the mining activity. Even the jobs that mining development brings are short-lived and seldom benefit the whole community.

The attention of communities and NGOs working with them is focused on the increasing number of problems that communities are facing as a result of mining development. A priority among these is the environmental impact which affects present-day communities and will affect future generations. Water, air and noise pollution, erosion, and deforestation are just a few examples of the problems constantly mentioned by communities that are most impacting their existence. However, the communities' lack of information and expertise in these matters is limiting their capability to evaluate the risks that mining poses to the environment. If the company complies with local

requirements to present an impact assessment survey, communities have no way of analyzing the data. When environmental impact assessments are presented, they are frequently incomplete and negotiations with the mining industry are, more so than in developed countries, dominated by the interests of the industry.

Health issues are affecting miners and the community as a whole. Mining causes health problems either impacting people's health immediately or affecting their long-term health and that of future generations. Governments deal with these problems at the national level, but it seems that it has been left up to mining companies to solve them locally. Companies are deemed responsible and should be aware that by addressing these issues, they are, in fact, minimizing costs. However, the advantages of investments in health care are not always applicable in developing countries. Companies responsible for both the welfare of the mining community as well as the operations of the mine itself, have a vested interest in preventing high mortality, injury, and illness. Investments in the health of the workers can reduce costs, especially if the company itself is held responsible for payments for health costs. However, in countries with large numbers of unemployed, poorly educated people and limited opportunities for other means of existence, mining companies have an abundant workforce and usually no obligations whatsoever to pay for health costs.

Economic benefits are unbalanced. Both mining communities and companies are mainly focusing on short-term advantages. Market forces give the company the incentive to extract the minerals at minimum costs. Communities, due to their lack of reliable information, also focus on short-term strategies, hoping that they will solve their immediate short-comings and concerns. While often mining companies pay millions of dollars in taxes to governments, local communities rarely benefit from this, other than the "few cents" that the company might invest in "development projects," such as the establishment of schools and clinics. From the communities' perspective, mining companies are taking from developing countries millions of dollars worth of minerals in exchange for precious little. In other words, communities believe that companies are getting all the benefits from mining activities (dollars versus cents), while they are paying the costs. Communities and companies have to develop long-term strategies that will benefit both of them in the economic and social areas. Then, a more balanced distribution of costs and benefits between communities and mining companies can take place.

Communities have also identified as an area of concern the impact that mining has on their way of life, culture, and traditions. Family and community life are being disrupted in the name of progress. In the end, communities are left with the mirage of development and with worsening social conditions, that are changing at a pace that communities are finding increasingly hard to cope with. Indigenous populations have been particularly affected and their traditional ways of life have changed without their consent, since they have not even been consulted about their willingness to engage in a different economic activity. No solutions are offered to find a new point of equilibrium.

In this context, two very different cultures—the mining communities and the mining companies, that are mostly representing foreign capital—come into contact. Diverse cultural backgrounds and styles are responsible for different conceptions, perceptions, ways of thinking, expectations, and even negotiating techniques. As is always the case when two different cultures interact, the road one travels could either take the collaboration course or the confrontation path. The outcomes will obviously be different for each alternative. Historically, the second option has been predominant. This has to change if mining is going to develop in a socially responsible manner for the benefit of mining companies and communities throughout the world. The clash of cultures has diverse manifestations: between global monopolies and peripheral communities, metropolitan interests and national priorities, foreign companies and local communities, between members of different local communities, indigenous and non-indigenous populations, and between local and migrant workers.

One of these cultures—mining communities—is perceived as responding to paternalistic approaches hoping that all their needs will be taken care of by powerful patrons, like governments and private and state-owned mining companies. In many instances, governments and state-owned companies are not taking full responsibility. Foreign companies are then expected to fulfill that role by providing services and subsidies, undertaking community development projects, and assuming all financial obligations. In a sense, mining companies acting as surrogate governments are considered to be an equitable deal for communities, since they are not getting their fair share of the wealth generated by mining.

The other culture—mining companies—is perceived as responding to purely financial considerations, that excludes any consultation with the affected communities and other interested parties. Companies for a long time have been avoiding any responsibility in dealing with local concerns and the implications of mining development. Mining companies, so the argument goes, are not in the development business.

Mining companies and communities know that by definition mining activities are unsustainable. However, they are realizing that only through the achievement of Sustainable Human Development can mining activities be viable and prosper. They are increasingly realizing that a collaborative approach may, indeed, be mutually beneficial. A growing number of companies is accepting, at least in their policy statements, that their involvement in development projects is an integral part of the business plans of the company; that they have to subscribe to the same internationally accepted standards and safeguards, already applied in the developed countries, and implement them in the developing countries; and that they need to adopt corporate responsibility initiatives to address the economic, social, environmental, and human resource development needs of communities. In short, some companies are starting to recognize that through proactive community investment programs, they can improve their overall performance and competitiveness, while contributing to sustainable human development in host countries.

Communities and companies are convinced of the need to have a mechanism by which they can start bridging the gap that now separates them. An effective working tool will allow communities to take control of their own affairs. Companies, at the same time that they improve their corporate image, will effectively address the concerns of mining communities. By taking responsibility, both parties will increase the benefits and minimize the costs. The relationship between mining companies and communities in developing countries has been characterized by the lack of involvement on the part of the mining communities in decision-making processes during the different stages of mining development. Despite the fact that it is widely recognized that mining communities are the ones most impacted by mining operations, they are seldom consulted and their needs and concerns are only marginally addressed. Mining communities in Latin America were consulted about their problems and priorities and asked to identify possible solutions and ways of collaborating with the companies. The result was the proposal to formulate a Community Decision-making Model (CDMM), that will promote a better understanding of each others interests and will help communities and companies develop long-term strategies.

The aim of the CDMM is to promote a mutually beneficial relationship and is cemented on three main pillars which must be present for a healthy relationship to evolve: training programs, information exchanges, and community networks. The CDMM takes the view that mining operations will continue to grow in developing countries. Despite the unequal history, it is based on the assumption that it is in the best interest of both mining communities and companies to take a collaborative view instead of a confrontational one. This approach will empower the communities and allow wealth generated by mining operations to be redistributed in a more equitable manner to the communities.

### **A Summary of the CDMM**

The economic progress of developing countries cannot be achieved without addressing the needs of individual mining communities. The CDMM understands that the concept of community is an all-encompassing approach that takes into account the diversity of interests of affected parties, such as fisherman, farmers, loggers, and people concerned in general with a healthy ecosystem. Corporate best practices are not undertaken by responding to moral persuasion, but there is no doubt that they make good business sense. Economic and financial considerations can and will have positive impacts on the social development of mining communities.

Communities have to be consulted during all stages of mining development. Communities have to be a part of all decision-making processes concerning mining operations. Communities need up-to-date, reliable, and extensive information to make informed decisions. Communities need to have access to that information and to be part of information sharing networks. The information provided to communities has to

include technical, non-technical, and company related data, with particular emphasis on issues regarding health, environmental, and the socio-economic implications of mining.

An organized community will be able to participate more effectively in decision-making processes. Therefore, communities have to be trained and their skills upgraded in order to initiate a dialogue and to negotiate with mining companies. Workshops and training programs are an integral part of any decision-making process. Isolated communities cannot make informed decisions. The exchange of experiences and information will enable them to evaluate the benefits to be obtained from mining, but also the risks involved in the activity. Communities must have access to information networks, where other mining communities and non-governmental organizations are participating, and to share their ideas with communities all over the world.

Corporations and individuals have an obligation to strive for socially responsible mining. When the mining industry responds to the social concerns of the community, all parties involved benefit. Communities, like families, are the nucleus of human relationships and their degradation could lead to unbalanced growth and unequal societies. Poverty cannot be eliminated by a single mine nor by the development of the whole industry. Poverty can be alleviated and a socially responsible mining industry can significantly contribute to this end. When for both parties social benefits outnumber the costs, the new conception of a socially responsible mining industry will be widely accepted and a new balance for the currently unequal relationship will have been found.



## **An Approach to Mining Industry Development in an Outer Region**

**Léo Couture, Federal Office of Regional Development Quebec,  
Government of Canada.**

### **Introduction**

The goal of this presentation is to illustrate the approach of a Canadian outer region, Abitibi-Témiscamingue, to mining industry development. It refers particularly to the birth of a region which has banked on the economic spin-offs of the mining industry to ensure its development. Exploration and mining have remained the driving forces behind the growth of Abitibi-Témiscamingue. The companies have adjusted themselves to the geographic remoteness of this region from the large Canadian business centers. They have done well in respecting the environment, and have concluded agreements with the native communities. The statement to the effect that Abitibi-Témiscamingue has undergone demographic growth just recently glosses over the fact it had been inhabited more than 6,000 years ago by Amerindians who were kin to the indigenous populations of Central and South America some 300 generations ago.

The philosophy that has inspired the mining industry development consists in a transferable management approach, which could benefit South American countries where the mineral development potential attracts many foreign businesses.

### **A Young Region That Has Banked on Mining to Ensure Its Growth**

More than 600 kilometers north of Montreal, Abitibi-Témiscamingue is geographically isolated from the rest of the Province of Quebec. The region was undeveloped until the early 1920s when prospectors started to explore the area. The discovery of today's Noranda Mine in 1923 led to the most formidable mining rush in the history of Canada. It took some 25 years to stake nearly 300,000 properties along the Cadillac Fault where about 60 mines were brought into production from 1925 to 1960 and yielded in total US\$ 1.2 billion worth of gold, silver, and copper. These figures

accounted for 50 percent of Quebec's total mineral production. Abitibi-Témiscamingue rapidly became one of North America's largest mining regions.

Though nearly twenty mines closed down in that period, intensive exploration activities have continued and resulted in the discovery of new mines along the Cadillac Fault and to the north of Abitibi-Témiscamingue. With the postwar boom, the Canadian and American ore demand became progressively greater, partly due to the reconstruction of Europe. The incentive brought by this increased demand helped lead to the discovery of new mining deposits. The 1925–1960 period saw the emergence of towns such as Rouyn-Noranda in 1925, Val-d'Or in 1935, Chibougamau in 1950, and Matagami in 1960.

The 1981–1982 recession caused gold prices to rise dramatically to US\$ 700 per troy ounce and encouraged gold exploration worldwide. In Canada, the flow-through share program fostered exploration financing by means of fiscal deductions. The program contributed to the completion of several hundreds of millions of dollars in exploration work.

### **A Demographic Explosion Stemming from Natural Resource Development**

Although economic and demographic growth had a great and lengthy impact on these towns, the communities got themselves organized rapidly around mining development, as well as forestry and agriculture which have proven complementary. The demographic profile of the region shows the presence of a small group of managerial personnel, engineers, and geologists living amidst a much larger number of mining workers, sometimes near native communities. In 1950, the mines employed more than 10,000 workers or 20 percent of Abitibi-Témiscamingue's labor force. In 1996, the mining industry provided jobs to 7,000 individuals in the vast region of Abitibi-Témiscamingue or 11 percent of the regional working population. Given the indirect and spill-over impact of these favorable conditions on the regional economy, it is estimated that an additional 4,500 persons depend on mining activities.

Compared to the other regions of Quebec, which were mostly French speaking, Abitibi-Témiscamingue was characterized by a very cosmopolitan social fabric. Anglophones and European newcomers enriched the economic and cultural life of these new settlements. The population's attachment to the region grew indisputably stronger through the years. In 1991, the population of Abitibi-Témiscamingue neared 150,000 inhabitants of which 90 percent were of French origin, 8 percent of European origin but mostly English speaking, and 2 percent of Native origin.

It is true that the native population failed to integrate in the early phases of this prosperous period. However, agreements which have been sanctioned by the local native reserves and mining companies have since facilitated their integration and fostered the creation of training programs for a more efficient use of these human resources. Some of these success stories inspired government officials to develop industrial projects, the

most noteworthy of which is the 1976 James Bay and Northern Quebec Agreement. Ratified by the Government of Canada, Government of Quebec and native communities, this agreement assented to the construction of hydroelectric dams in Northern Quebec and guaranteed the native groups party to the said agreement the payment of royalties. In addition, the agreement made provision for the use and training of the native work force for the construction and operation of the hydroelectric infrastructures and power house. Hydro-Québec, which owns these dams, has made use of the native expertise pertaining to environmental friendliness in order to minimize the impact of the work on their territory.

Other projects have offered some opportunities to the native communities, such as the Raglan nickel deposit development project in Ungava Bay. This project contemplates training and hiring a large number of native workers. In addition, royalties on profits and guaranteed allowances will be paid to the native communities of Northern Quebec over a period of 18 years. This is an example of a forward-looking approach to collaboration between native communities and mining companies to foster the development of mining resources in Quebec.

### **The Economic Spin-Offs of Mining Activities in Abitibi-Témiscamingue**

Historically, the mining industry has expanded the inhabited area of Quebec. The economic spin-offs of mining activities have helped many regions of Quebec grow, of which Abitibi-Témiscamingue is one of the best examples. Neighboring regions essentially depend upon the mining industry to ensure their economic development.

From 1988 to 1992, the mineral production of Quebec averaged more than C\$ 2.8 billion, (or approximately US\$ 2 billion). Abitibi-Témiscamingue, Côte-Nord, and Northern Quebec are the most important mining regions in Quebec's. Mineral production contributes substantially to exports from the province.

In order of importance, Abitibi-Témiscamingue and Northern Quebec were accountable respectively for 22 and 19 percent of the average Quebec mineral production from 1988 to 1992. In the past five years, the mining industry has provided 21,000 full-time jobs among four regions, of which 21 percent are in Abitibi-Témiscamingue and 12 percent are in Northern Quebec.

Out of these 21,000 jobs, two percent are in the field of diamond drilling, 78 percent in mining development and 28 percent in primary metal industries. In 1992, the pay expenditures injected by the mining industry in the economy of Quebec totaled US\$ 635 million, US\$ 138 million in Abitibi-Témiscamingue, and US\$ 72 million in Northern Quebec. There are 27 copper, zinc and gold mines, 65 exploration companies, 16 drilling companies, 11 ore concentration plants and one primary copper smelter in Abitibi-Témiscamingue and Northern Quebec.

## **The Mining Industry Approach and the Regional Development Philosophy**

Resource regions gain by the presence of mining companies to ensure their development. Generally, their economy is not very diversified and depends heavily on the economic situation and decisions taken outside the regions. The mining companies must invest to ensure the sustainability of supplies and maintain a certain activity level in host regions. Otherwise, towns would have no choice but to close as was the case for other towns in the past. Despite important discoveries in the recent years, mining companies must keep on stocking reserves. Therefore, new discoveries must be made if only to ensure long-term supplies to primary metal industries.

The exploration expenditures of the Canadian mining companies are shifting towards foreign countries, especially in Latin America and Africa. In the recent years, the top executives of these companies have made investments in order to further the use of state-of-the-art technologies. They have come to encourage expertise export and exploration work overseas. International competition, technical development, severe environmental standards, metal recycling, and new materials have compelled Canadian mining companies to take action.

Canadian and Quebec fiscal incentives have helped maintain gold exploration at a high level. The flow-through share program which financed the mining exploration expenditures changed the development process of Abitibi-Témiscamingue.

Exploration generates significant economic spin-offs in mining regions. A survey conducted in December 1993 with several mining exploration companies revealed interesting results. A complete break-down shows that a US\$ 1 million investment creates new jobs on the basis of the following average sums.

1. from US\$ 111,000 invested in property acquisition: two jobs;
2. from US\$ 175,000 invested in basic activities: five jobs;
3. from US\$ 714,000 invested in detailed activities: twelve jobs.

This is a conservative but realistic evaluation of the main economic spin-offs of exploration work. The survey was used as basic data to analyze the impact of exploration work on the regional economic multiplier. Maximum and minimum scenarios were prepared for each investment of US\$ 1 million. With 20 new direct jobs, four to six indirect jobs are expected to be created in the host region. The impact on the region's income prove quite significant. For each million dollars invested in mining exploration, 240 to 350 thousand dollars are used to purchase goods and services in the host region. Mining production systems have many and diversified interrelations with other industry segments. Below is a list of industry segments which benefit from these conditions.

- Resource industry—Exploration, ore extraction, and concentration:

- Drilling by contract, services relating to mining exploration or extraction, prospecting, geophysics and geodesic surveying services, research laboratory services.
- Processing industry—Construction and equipment manufacturing:
- Air pipe, gas line and heating system installation, electrical works, explosive ordnance industry, light industrial buildings and manufactures, machine shops, plumbing, process piping, ready-mixed concrete industry, refractory material industry.
- Service and trade industry:
- Accounting firms, bus chartering, electricity production and distribution, engineering firms, garages (general repair and gas stations), harbor administration, hotels and auto courts, bulk cartage services, laundering and dry cleaning services, property and multiline insurance companies, specialized food supplies, telecommunication services, rental of ships, road, street and bridge maintenance, security and investigation services, specialized air transport, stock brokers, systems and computing services, wholesaling cars and trucks, garments and men's clothing, hardware supplies, mining extraction machinery, material and supplies, steel and iron primary forms and structural shapes.

Some research centers work in consultation with the mining industry to develop methods and technologies that meet their requirements. In the middle term, their input in the creation of new processes or equipment should lead to profitable mining development, mineral reserve increase, and environment improvement. New automatization, extraction, or treatment processes improve productivity level. Technological innovation in the mining business is vital to keep the Quebec mining industry competitive. Any reorganization or research and development effort will also prove useless without technical manpower skills. Several training and research centers have been established with the support of the mining industry. These are:

- the Unité de recherche et de service en technologie minérale of the Université du Québec en Abitibi-Témiscamingue;
- the pilot plant of the CÉGEP de l'Abitibi-Témiscamingue used, among others, for training purposes;
- the Centre de Recherche Minérale of the Government of Quebec;
- the CANMET Research Lab of the Government of Canada; and
- the Centre d'aide au Développement Technologique.

In Quebec, there are two approaches to the development of mining regions. The traditional approach is based upon mineral resource development and extraction, as well

as environmental impact minimization. The managerial staff enforces strategy decisions dictated by a head office which in most cases is established outside the regions. The top executives rely on personnel mobility to satisfy specialized manpower requirements. The managerial staff tolerates no interference in its management methods or procurement policy. The top executives' involvement in community development should never be taken for granted. In fact, their concern is limited to natural resource extraction and export.

The second development model differs from the first on its partnership approach. In Abitibi-Témiscamingue, the senior staff of the mining companies participate in their long-term human resource planning or in the promotion of local procurement. Sometimes, these companies contract out for services, thus furthering local business development. Large businesses usually contribute to improving the quality of community life by investing in recreational facilities, financing community organizations, or supporting projects they deem profitable for the region. Port and airport installations as well as railway facilities which are used by mining companies prove useful to the community and, among others, the forest industry.

Local organizations can get involved in the development of their regions. The economic development officers have learned to stimulate the economy of their region. Activities such as sub-contractor shows, business crossroads, exploration seminars, business opportunity days, trade fairs, commercial and industrial exhibitions and lectures by procurement officers raise a great deal of interest among the regional organizations. Most regions participate on an ad hoc if not regular basis in such events. The attitude and open-mindedness of large organizations in this regard are determining factors, but some mining regions have shown little initiative. It is possible that top executives, who have a traditional vision of development, pay little attention to regional self-sufficiency and decentralization initiatives.

The economic development of Abitibi-Témiscamingue has benefited from a level of mining expertise which has won recognition around the world. Mining production depends upon activities ranging from property acquisition to preliminary geo-scientific work, from detailed geo-scientific work to mining deposit evaluation, and from feasibility studies to mine development. All these activities require various professional services and Abitibi-Témiscamingue has developed this expertise in the past decades. Since 1985, these geology experts have successfully completed exploration projects in Quebec and Canada. This is an inherent characteristic of the mining industry. The knowledge and strategy of growth on the international market which mining equipment and tool manufacturers have acquired and established are true assets for the region. The mining industry has created a market by selling expertise, equipment and products overseas and by raising the level of their business activities in Abitibi-Témiscamingue.

Some organizations see linkage between service companies and small manufacturers as a potential economic opportunity. The assumption of economic development responsibilities by the communities should help create a healthy business

climate and improve the regional industrial structure. Mining regions must take up many challenges. The following non-exhaustive list of challenges was compiled during interviews with industrial commissioners.

- Increase mineral resource processing activities in the region.
- Improve the environment via research on tailing ponds.
- Improve productivity methods liable to profitable vein deposit exploitation.
- Create new sub-contracting businesses.
- Foster entrepreneurship in mining regions.
- Promote mining regions in order to motivate investors to carry out exploration work.
- Encourage geological and detailed mapping in order to become more familiar with the mining regions of Quebec.
- Provide training in mining trades to the regional labor force.
- Create mining exploration funds with the support of local organizations for the benefit of small regions and attract mining exploration companies.
- Enhance the value of salable mineral substances.

### **Conclusion**

The mining industry can be a major force behind regional economic development. This is particularly true for Abitibi-Témiscamingue. It is important to increase the level of human resources to attract mining exploration companies and benefit from related economic spin-offs. We must be fit, willing and able to create and develop new partnerships, while all the time taking into account public expectations and environmental concerns.



## **Mining and the Community: Socio-Cultural Issues In South East Asia**

**Stephen Davis, WMC Resources Ltd., Perth, Australia**

Socio-cultural issues are emerging as a key category of risk in project development throughout the world. This should not be surprising considering the plethora of social programs evident in first world nations and the thrust to initiate and support such programs by the United Nations and similar international agencies. First world nations such as Canada, Australia, and the USA have seen the rapid emergence of indigenous issues throughout the last generation, an early indicator of the emerging wider social reform agenda.

In Australia the clearest markers of the emergence of this process were evident one generation ago. In 1966, the labor strike by the Gurindji Aboriginal workers on Wave Hill cattle station, in support of striking Aboriginal workers on a nearby station seeking award level wages for Aboriginal people in the cattle industry, drew national attention to Aboriginal issues. In 1967 the Australian Constitution was amended by referendum empowering the Federal Government to enact legislation in respect of Aboriginal people and, for the first time, count them in the official census figures. The subsequent handover of 3236 square kilometers of land excised from Wave Hill pastoral station to the Gurindji Aboriginal group in 1975 by the Australian Prime Minister further built a momentum that brought with it the *Aboriginal Land Rights (Northern Territory) Act* in 1976. By 1997, this Act has resulted in almost 50 percent of the land in the Northern Territory being awarded to Aboriginal people.

The current momentum of indigenous socio-cultural issues in Australia has been fired by the Mabo No.2 Decision in 1992 and the Wik Decision in 1996 by the High Court of Australia which have overturned the concept of *terra nullius* and extended the potential application of Aboriginal land rights (native title) to almost 85 percent of the Australian land mass and surrounding seas. The freehold land which accounts for the remaining 15.09 percent of the Australian land mass is by no means free of presumption that it is not subject to native title claim under existing legislation and the predisposition

of the courts for correcting social imbalances. The courts will inevitably wrestle with the question as to whether native title can coexist with freehold title.

Australia is, in some ways, a late player as Canada, like New Zealand, established treaties with local indigenous groups at the time of European settlement. In Canada treaties were established with aboriginal groups as early as 1624, the date of the first written treaty between the French and the Haudenosaunee. By 1926, 67 treaties had been concluded covering almost half of the Canadian land mass. By amendments to the 1982 Canadian Constitution, (Section 35(1)), existing aboriginal and treaty rights as well as treaty rights that may be acquired in the future, were recognized and affirmed. A system of Comprehensive Land Claims allows aboriginal groups to make land claims over areas not covered by earlier treaties or superseded by law.

In the United States some 389 treaties were signed with Indian groups until the signing of further treaties was banned by Congress in 1871. Many Indian groups later bought suit for violation of treaties. The terms of these treaties are currently being reviewed and legally challenged by many Indian groups.

In New Zealand the government entered into the Treaty of Waitangi with Maori groups in 1840. In recent times the government has conceded the majority of the commercial inshore fishery to Maori and conceded control of vast commercial fishing infrastructure to exploit the fishery. This year Maori groups have claimed that land obtained by the government last century pursuant to the Treaty of Waitangi was never sold by Maori. Rather, they claim, it was leased to the government, as Maori tradition does not allow alienation of land. It can be leased, they contend, but must revert to Maori.

The situations outlined above paint only a thumbnail sketch of the complex situation facing the respective first world nations. The emerging issues are arguably more ambiguous, complex, and less tangible than any previously facing resource developers. The environmental issues of the last fifteen years are now largely technical. They may be no less important than they were ten years ago, but they are much better understood, and tools have been developed for measuring and managing them.

The complexity of socio-cultural issues, the speed of their development, their ability to capture a high political and public profile, with the resultant attendant delays and costs to projects, has caused many resource developers to refocus their horizons. Third world and emerging nations are now often viewed as locations less prone to high profile, publicly visible socio-cultural issues. Consequently, they have a lower risk on such issues.

Information and intelligence on resource developments in third world nations is sparse and has not been widely reported. Third world based advocacy groups are not yet generally well developed or as well connected as are their first world counterparts. This situation is changing rapidly. Non-government organizations (NGOs) in the emerging nations are on the edge of developing international connections and networks. The Internet is a significant tool which is in its earliest stages of exploitation by advocacy

groups both as an information exchange between like groups and as a platform for dissemination of information direct to the market place and international media outlets.

Having made significant commitments in emerging nations, many resource developers have been surprised to find that they must deal with socio-cultural issues, the likes of which they thought they left behind at "home." However, the situation quickly can become very complicated wherein the company is dealing in a cross-cultural situation, a legal structure, fiscal regime and political climate, the dynamics and history of which slowly emerge with time and experience.

These factors are part of the emerging reality of operating in other than one's own or first culture. One of the facts of this reality is that there are few countries in the world where there is only one homogenous socio-cultural group throughout the entire country. While this is undoubtedly true in Latin America and Africa, nowhere is the situation more complex than in the East Asian region. Any resource developer seeking to operate in Asia must, at the earliest stage of involvement, not only assess the traditional categories of risk—such as taxation, labor laws, fiscal policy, legislative structure, and political stability—but also the emerging issues associated with the social and cultural impact on the local community.

In Asia, the position of governments in respect to socio-cultural risk varies from one of fixing all problems through the application of military solutions, through to one of telling the developer, "It's your development so its your problem!" Whatever the means the company uses to address the local socio-cultural issues one matter is clear ... there is a rapidly growing public accountability.

The socio-cultural factors which are present at the outset of a development cannot be assumed to remain static throughout the life of a mine. In most cases, before the mine is operational major changes will have occurred in the local and to a lesser extent, the regional community, if only due to the growing presence of the company as the project develops.

In the Asian region, the development of a mine often brings a rapid and large scale shift from a subsistence economy to a cash economy. The adaptation of local subsistence communities to cash is rapid and generally irreversible. Attendant to the construction of a mine are therefore the high expectations of the local community to benefit from the development.

However, the changes in lifestyle attendant to a shift from a nomadic to a sedentary lifestyle, from a subsistence to a cash economy can be immense and totally unforeseen by the local community. If the ongoing expectations of the local community do not continue to be met, the project risk will rise significantly.

Currently, there is a clear and growing trend for the *transfer of power* from central governments *geographically out* and *socially down*. Governments may not actively pursue such an option but they are learning not to resist it as the power is being assumed by decentralized groups such as local and regional government.

Developers can pre-empt this power shift through the strategy they employ to recognize and interact with the local community. The "local" community is not limited to the people occupying the mineral lease, nor those residing within sight of the mine. The developer would be wise to make a detailed review which lists all groups which might be affected by the mining operation. This would include those community groups living along service corridors which may extend tens if not hundreds of kilometers beyond the mine lease.

Since the early 1980s we have witnessed a growing expectation by the community to be consulted in respect of the impact of developments on land within their area of interest, not just residence. The initial interest was focused on the transition from exploration to development in the case of minerals. This interest was directed in the feasibility stage and became enshrined in environmental impact statements which addressed potential physical impact on the environment.

By the late 1980s the community was actively seeking engagement in debate about closure of projects. This interest again focused principally on the rehabilitation of the physical impact of the project on the environment. The community's expectations, not surprisingly, continued to exceed the developer's level of engagement.

In the early 1990s the level of the community's demand for engagement had not only increased but had begun to extend to potential social impact. In due course demands for social impact statements have become mandatory through government regulation.

We are currently seeing increasing community demands for consultation throughout the operational stage of a project. The argument will soon move from one of demands for consultation to engagement by way of active participation.

Most developers would not agree at this time that consultation with the community should occur at the earliest opportunity. Nevertheless, this is exactly what is necessary. What is becoming increasingly evident is that such consultation should not only occur early but should be sustained throughout the project.

Community consultation must *parallel* consultation with local, provincial, and national governments, who have direct responsibility for the delivery of community support services, development, infrastructure, and land tenure. The developer's presence in the local area is in many cases resulting in a shift in responsibility from government to the developer to deliver local services to the community. The developer often has a greater capacity than the government to deliver such services, and consequently it is clear that international mineral developers are increasingly being pressed **to assume the role of government.**

In such a situation there must be a clear understanding as to the range of and manner in which the developer will undertake *quasi-government functions*, including socio-cultural and infrastructure service delivery. The national government must agree with any community initiatives to be pursued by the developer and be kept abreast of all such engagements. There must also be clear agreement on the manner in which the costs

for these functions will be borne. If the developer is to be expected to undertake such functions and responsibilities, then there reasonably may be a case for the revenue from the development due to the national government being discounted by the cost of government services delivered to the community by the developer.

It is imperative then that the developer must consult and engage local, provincial and national authorities in accordance with the respective roles of such authorities. A listing of such groups to be engaged will vary from country to country throughout Asia but is likely to represent the range of categories that follow:

- Government—National
- Government—Local
- Government—Home
- Occupiers/Landholders (indigenous and non-indigenous)
- Others—General
- NGOs
- Military
- Church and Religious Groups
- Employees
- Media
- Business Networks
- External Consultants
- Investment Community.

The extent of the listing of organizations consulted by WMC for its Tampakan Copper Project in the Philippines makes it clear that the attention that developers need to give to community consultation has risen dramatically in recent years and will continue to rise for the following reasons:

- The community's increasing awareness of the issues;
- The community's skills to engage rises;
- The community's demand to engage rises;
- The community's leverage on land access rises;
- The community's leverage on compliance rises;
- The extent of government decentralization grows; and
- Local peace and order secured by military or para-military force becomes internationally increasingly unacceptable.

Companies must therefore move quickly to develop policies, procedures, and strategies which will address these changing circumstances. The acquisition of skilled advice in respect of social and cultural issues as they manifest themselves throughout the community in the East Asian Region, as will become more evident in Latin America and later in Africa, is a key element of any international mineral company strategy, not only to obtain land access but to maintain it securely throughout the life of the project.

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## **Management Practices and the Community: Rossing and The Rossing Foundation in Namibia**

**Charles V. Kauraisa, Chairman, Rossing, Namibia**

### **Introduction**

The definition of the term community is clearly fundamental to identifying the topics to be addressed in this paper. At Rossing we see our community as falling into three distinct groups. The first is our employees and their families, the second is the neighboring towns of Arandis and Swakopmund, and the third is the country of Namibia as a whole. This last category may be surprising to some but is critical to an understanding of our relations with our communities.

The Rossing mine is situated in the middle of the Namib Desert. When we began operations, the nearest population was in the small seaside town of Swakopmund, some 70 kilometers away. We had to create a local town, Arandis, to house the employees we recruited from all over Namibia. Because Namibia has a small population, at present about 1.6 million, this meant that we recruited employees from every region in the country. In every region therefore our employees have families, relations, and friends. The country therefore must also be our community.

My talk today is divided into four parts.

In the first part I will give you some detail on our parent company, Rio Tinto, and its approach to community development. In the second part I will provide background information on the Rossing Mine, the business environment in which we operate, the country and economy in which we are based, and our approach to our relations with our employees, whom I call our first community. In part three I will discuss relations with our local communities in Arandis and Swakopmund. And finally in conclusion I will turn to the role of the Rossing Foundation and its contribution to the development of Namibia in the last 18 years.

## **Business Environment**

Rossing Uranium is a 69 percent owned subsidiary of RTZ-CRA recently renamed Rio Tinto (and will be referred to as such in this presentation). The Namibian Government is also a shareholder in the Company. Rio Tinto is one of the world's leading international mining companies, whose market capitalization at the end of 1996 stood at about US\$ 16 billion, with operations in over 40 countries. I believe that I can best give you a flavor of the Group by quoting from the description of the Group given in the 1996 Annual Report.

“RTZ-CRA takes a long term and responsible approach to exploring the earth for first class ore bodies and to developing large, efficient operations, capable of sustaining competitive advantage. In this way, we help to meet the growing global need for minerals and metals which contribute to essential improvements in well being.

Wherever we operate, we work closely with our hosts, respecting laws and customs, minimizing adverse impacts, and ensuring transfer of benefits and enhancement of opportunities. We believe that our competitiveness and future success depend not only on the unrivaled quality and diversity of our assets but also on our record as good neighbors and partners around the world.

Accordingly, we set ourselves high environmental and community standards. Our commitment to health, safety, and the enhancement of the skills and capabilities of our employees is second to none in mining. We seek to make lasting contributions to local communities and to be sensitive to their culture and way of life.”

As you will have gathered from this extract, Rio Tinto attaches great importance to community relations, an area in which the Group has recently formalized its policy. This policy is, we like to think, partly a reflection of the successes of Rio Tinto in community relations and development in its Southern African operations at Palabora, Richards Bay Minerals, Rio Zim (Zimbabwe), and Rossing in Namibia. The newly formalized policy will enable implementation of a consistent approach in community responsibility and development throughout the Group. I would also like to quote to you direct from this policy.

## **Communities Policy**

Wherever the Group operates, good relations with its neighbors are fundamental to long term success. Knowing that each local community is different, the policy of Rio Tinto is that every Group operation shall strive to understand and interact constructively with its local communities and to assist their development in ways which apply the following principles:

- Mutual respect
- Active partnership
- Long term commitment

Mutual respect is essential to lasting, beneficial, interactive relationships between the Group's operations and local communities. This requires continuing and effective two way communications and realistic expectations on both sides.

Active partnership defines the way the Group works with local communities, as well as with regional and national governments and other affected parties, by seeking mutual commitment and reciprocity based on trust and openness so as to reach agreed objectives and shared involvement. Long term commitment to local communities is sought so that social and economic well-being is safeguarded and, where possible, enhanced throughout a mine's life and beyond.

Recognizing that environmental issues have an important impact on community perceptions, this policy will be pursued in parallel with the Group's Health, Safety, and Environmental policy."

The policy therefore requires all operations to take account of the needs of the local community in the areas in which they operate and/or have influence and manage these efficiently. This requirement will now form part and parcel of the business plan of individual operations and must be an integral part of the planning process.

et us turn now to the company of which I am Chairman. Rossing, as part of the Rio Tinto Group, has always been at the forefront of efforts to ensure good community relations, and we will certainly continue to strive to be at the forefront in the years ahead. This brings me to the second part of my presentation—some background on the country of Namibia, our company Rossing, and relations with our employees.

### **Company—Employee Relations**

The country of Namibia is relatively advanced in the African context. It has a population of some 1.6 million people with better than average developed infrastructure. The investment climate is considered favorable. This has largely been made possible by the stability achieved since Independence in March 1990, as well as the government's continuous democratic principles and free market policies. These have nurtured confidence in both local and foreign business circles and augur well for the future of the country and, in particular, the mining industry.

The mining industry itself is a significant contributor to gross domestic product and exports and indirectly and directly it is the largest tax payer. The industry is also next to government and the agricultural sector as an employer and its capital investments are second to those made by the government.

In 1996 we at Rossing marked the 20th Anniversary of our first production in 1976. At that time the country of Namibia was controlled by South Africa, but it was expected that Namibia would achieve independence in a relatively short time scale. In the end it was not until 1990 that that goal was successfully achieved.

The company mines and processes uranium which is used solely to produce nuclear power. We currently account for nearly 8 percent of the western world's uranium production.

The company is well respected in the industry for its high technical standards, in particular, its high safety standards. We have won the NOSCAR, the highest safety award available in Southern Africa, for 11 successive years.

The financial fortunes of the company have varied with the roller coaster movements of the world uranium price. In the early and mid-1980's the company made good profits and operations represented nearly 50 percent of all exports from Namibia. As a result the company was a very significant contributor to GDP and to the tax revenues of the country. Difficult market conditions made it necessary however for the company to reduce operations to 50 percent of capacity in the early 1990's. Some improvement in market conditions in the last year offers the potential that Rossing will increase its contribution to the economic well-being and development of Namibia, and it is with this goal in mind that the company has recently been increasing production levels. As a cost competitive supplier with a substantial ore body, Rossing is determined to be a significant contributor to the Namibian economy well into the 21st century.

Rossing had a total of 1225 employees at the end of 1996. The company operates as it has always operated, on a non-racial, nondiscriminatory basis but with programs to assist the formerly disadvantaged. Employees are represented by the Rossing Mineworkers Union which merged with the Mineworkers Union of Namibia in November 1988. All personnel are employed on a permanent basis with family housing and social facilities provided in Arandis and Swakopmund. Good conditions of employment and a stable family environment have contributed to an extremely stable workforce. Labor turnover is low for Southern Africa at less than five percent. The development of local employees is actively encouraged. At present over 90 percent of the workforce are Namibian, and Namibians are represented at all levels, including senior management.

In the technical and managerial areas, expatriate employees who leave Rossing are being replaced by Namibians when suitable candidates are available. The policy is pursued actively through both internal development and the external development programs in which Namibian students are afforded the opportunity of studying full time in the Republic of South Africa and overseas. As a result, some two-thirds of employees holding diplomas and degrees are of Namibian origin. Rossing spent nearly US\$ 1 million in 1996 on training and development, with the emphasis on computer-based training programs in the operating departments.

In 1990, Rossing donated nearly US\$ 2 million to initiate the construction of the Namibian Institute of Mining and Technology as an independence gift to the country. The school has the objective of training Namibians in the technical skills required by the mining industry.

I think that from the above commentary you will have got a good feel for our approach and philosophy in dealing with relations with the first of our communities, our employees. We offer a very good remuneration package in base salary but also in pension, health care and housing benefits. We invest in our employees extensively through training and development. We pay a lot of attention to communications so that our employees are informed about, identify with, and can contribute to programs to develop our company. Of course we are not perfect, and there is much more we need to do but our overall good employee relations, the low employee turnover, and the fact that over 50 percent of employees have been with the company 15 years or more demonstrates, we believe, the success of these policies.

### **Relations with Neighbouring Communities**

Turning now to the third part of my presentation, relations with neighboring communities. The Rossing Uranium mine was unlike many new mines, not established in areas of existing habitation. As earlier described, the area was arid and desert like with no existing inhabitants. It was therefore necessary to draw the workforce from elsewhere. The colonial administration stipulated that the workforce should, in accordance with its apartheid policy of separate development, be drawn from the "Damara Homeland". This was not to be. Rossing management decided to fight the policy and to draw the workforce from all parts of the country, particularly from the rural areas. That meant that employees had to leave their homes in remote villages with a known environment to settle in a totally alien area.

An area, today known as Arandis, situated 12 kilometers west of the mine operation and approximately 60 kilometers east of Swakopmund was identified and developed into a town for Rossing employees.

Having employed a workforce drawn from other areas, it became Rossing's sole responsibility to provide accommodation. The company had a number of options in the provision of housing. The company could, for example, have, like many other mining companies, provided single dwellings or compounds, which did not accommodate families. However, because of its objectives to keep families together instead of separating them, we opted to provide good quality family housing.

Rossing mine provided two types of accommodation to employees. Two, three, or four bedroom houses with solar heating for hot water and electricity were built especially for those with families. The house had enough space for a garage or carport as well as for gardening, as residents were encouraged to eat nutritious food and to plant their own vegetables. For the single employees, single quarters of good standard were built which accommodated about 150 single residents. The single quarters had facilities which included a TV room and a lounge area for recreation and visitors to be received.

The health needs of employees and other residents were met through the establishment of a medical clinic, with services from consultation to pharmaceutical distribution of medicine. A fully fledged hospital was built with a 42 bed facility and

well trained health personnel. Closely linked with this was the initiation of community health programs where the community, especially women, were trained in basic hygiene to ensure a risk free health environment. Many were also trained in gardening, especially vegetable planting, that ensured the provision of balanced, nutritious diets.

Educational needs were identified and programs were developed and implemented. For the younger ones, an early learning play school provided services for three to five year olds. Resources to stimulate and enhance the full development of these children were in place, with well trained pre-school teachers. Three schools were built to cover primary and full secondary education. All schools were well equipped in meeting the educational needs of the children. In general the teachers were well qualified and experienced.

In 1981, Rossing donated the town of Arandis to the independent Government of Namibia and drew back from the management of the town in 1992. Arandis was proclaimed an independent town in 1994. It is now administered by a fully fledged municipal council with an elected committee.

In analyzing Rossing's policy in Arandis it is important to realize that provision of housing and schools does not in itself foster the fabric of the community. In our case we elected to set up a creative community section with well qualified staff who first focused on assisting families to acclimatize to their new environment. This included the induction of the wife to live in modern homes with electricity. The Arandis Clinic assisted with increasing awareness regarding family health care, while the Arandis Club and the sports section fostered the development of community spirit.

The success achieved by these sections would undoubtedly not have been possible without extensive communication with the community. In this respect the company employed at that time a staff with ability to communicate in all the local languages, who identified and communicated with group leaders in the community.

Initial communications were aimed at heightening awareness and maximum participation which eventually enabled the identification of opinion leaders. Care was taken to ensure the involvement of priests, school teachers and principals, businessmen, and women. As the community spirit developed, a representative body was established which later became the Town Council of Arandis.

This success story has however a negative side to it. The community tended to become heavily reliant on the company—a process which the inhabitants seemed to find difficult to break away from when the company drew back from the town.

The overall approach had been to ensure high standards in all areas of the town. With the benefit of hindsight, it can now be argued that the company was too paternalistic in its approach and that greater emphasis could have been given to involvement and joint decision making, an approach which, as will be described later, will be pioneered by the Rossing Foundation.

Brief mention should also be made here of Swakopmund, the seaside resort and growing tourist attraction where about 50 percent of the employees are based. Rossing's approach from the start was that it wished to integrate with and not dominate the town. New housing was therefore spread throughout the town and in new areas, only every alternate plot was built on. Employees were also encouraged to play a full part in community programs, for example by joining the Board of Governors of local schools. The result is, we believe, that Rossing employees have become a fully integrated part of the Swakopmund community.

### **The Rossing Foundation**

I now turn to the last section of my presentation and the third category of community that I referred to earlier—the community of Namibia and therefore to the activities of the Rossing Foundation. This organization was established in 1979. At that time the Chairman, Mr. Ronnie Walker, felt that in the light of his experience in Zimbabwe a foundation should be established that would help with the development of the people of Namibia and thereby make a significant contribution to progress in the country.

The Foundation is administered by a full time Executive Director who is responsible to an independent Board of Trustees. The organization has been funded through its history by donations received from the profits of Rossing. The Foundation addresses the crucial needs of the Namibian community through its various centers in the country. It furthers the practical education of Namibians in order to achieve greater national productivity and to increase understanding between the inhabitants of Namibia. By the end of 1996, it is conservatively estimated that over 15 percent of the Namibian population had benefited from the services provided by the Foundation. Total investment by the Foundation had by the end of 1996 been US\$ 25.1 million.

The objectives of the Foundation were defined at the start of operations as follows:

- To further the practical education of Namibians in order to achieve greater productivity and to increase the understanding of the inhabitants of Namibia.
- To encourage the creation of and/or to create opportunities for people to use their education.
- To promote the advancement of the living standards of the people of our country.

In order to understand these very broad objectives it is necessary to return to the environment in which Rossing found itself operating in Namibia in the 1970's.

Namibia of the 1970's was administered by the South African government and was to all intents and purposes a fifth province of South Africa. The South African apartheid regime had exercised an iron-fisted control over the area and had virtually turned it into a war zone. An armed struggle was being fought against the South African regime by SWAPO. The Bantu education system and Afrikaans had been introduced into

all schools in the country with the very clear attempt by the South African authorities to impose upon Namibia a culture and a regime that not only made it an integral part of South Africa but also would allow the apartheid regime total and absolute control over the people of Namibia. The regime, for military purposes, had constructed a fine network of roads and improved the railways systems so that they could conduct their low level intensity war in the north efficiently.

The development of the infrastructure of the country was therefore well advanced in the late 1970's when Rossing started operations. However, the South African regime had failed in their mandate, received from the League of Nations in 1920, which was to "develop the country *and its people*". The development of the indigenous people had been totally neglected. School standards, particularly in the black schools were, appallingly bad with very low pass rates and very high dropout rates. Few black Namibians entered university to obtain the sort of qualifications that were needed in a young and developing country.

Mr. Ronnie Walker and the Board of Rossing understood this and, in addition to ensuring that the mine established extensive training programs for its own employees, decided to fund the establishment of the Rossing Foundation. So what has the Rossing Foundation achieved and how has it achieved it?

The range of programs on offer at the various centers, and through some of the Foundation's outreach activities, is comprehensive and far-reaching. Courses on offer include English at many levels and specific target groups cover typing, computer training, accounting, office practice, needlework, welding, motor mechanics, and a variety of specialized training programs that target teachers, youth workers, early childhood teachers, trainers, and entrepreneurs. A network of library facilities provide an invaluable service to the communities that they serve.

These activities have given the Foundation a strong presence in many parts of Namibia. A large number of Namibians have been able to pick up skills that have enabled them to obtain either employment or to become self-sufficient and self-supporting individuals in the informal sector of the Namibian economy.

Namibian's unemployment rates are in the order of 30 to 35 percent. A significant proportion of the unemployed are in search of skills which will enable them to actively participate in income earning tasks and enable them to survive. Consequently, the Foundation through the years has paid a great deal of attention to helping rural communities so that they too can generate wealth for themselves. This has been achieved through a number of development programs, particularly in the crafts making.

Rural communities have also received assistance with the development of food producing schemes which have improved household food security. The most significant contributions in this regard were achieved in partnership with the International Crops Research Institute for Semi-Arid Tropics to produce a new strain of omahangu, the staple food of the people in the northern regions at the Okashana Research and Training establishment of the Foundation. This strain of omahangu requires only 12, rather than a

16 week growing period, which is an appreciated difference in a country which, with the exception of this year, has experienced extreme dry spells and uncertain rainfalls over the last 15 years. This strain of omahangu can survive on less rain but also gives double the yield of the old type originally grown in those areas.

The Foundation has therefore pursued a deliberate policy of establishing a presence in as many of the areas as possible from which the mine drew its workforce. This has the effect of improving and making an impact upon the lives of many of the relations of the people who work at the mine itself. This in turn has led, we believe, to an improved industrial relations atmosphere around the mine. Although the presence of the Foundation is not the sole reason for the comparatively harmonious industrial relations that exist around the mine, its activities are a significant factor.

Since 1990 the role of the Foundation has expanded dramatically. The Foundation had played a role in helping the company to establish a good relationship with the incoming SWAPO government prior to independence. In the post-independence era the aid and donor agencies who came to Namibia in large numbers found in place, and well supported by the government, an organization with whom they could enter into partnerships for development programs. The result has been that the Foundation has joint development programs and partnerships with USAID, UNDP, the European Union, ODA, SIDA, the Australian government, the New Zealand government, and many others.

Between 1994 and 1996 the Foundation has managed US\$ 10 million of other donor's money. The Foundation works very closely with key government ministries such as the Ministries of Education, Fisheries and Marine Resources, Environment and Tourism, Health, and Trade and Industry to ensure that its work and programs are in line with government policy and aspirations for the social upliftment of its people.

What we therefore have with the Rossing foundation is an organization that is both acceptable to government and aid agencies by virtue of its very strong financial management system and also acceptable to local communities, NGOs, and Community Based Organizations (CBOs). The Foundation now has a role that goes well beyond the original objectives set by Ronnie Walker and is seen as a bridging organization, a funding organization, a financial management organization, and a conduit for development funds to go into meaningful and effective development programs. The Foundation is considered to be well structured to deal with large organizations such as the World Bank, the European Union, USAID, and others interested in efficient utilization of their funds for the benefit of the local population. Because the Foundation has been in place for so long and is so well accepted it is able to assist NGOs and CBOs which are unable on their own to directly deal with World Bank and European Union systems. We, at Rossing, believe that what we have in place is an organization that fills a gap in the development sector. We believe that the Foundation, through its links upwards with the government and the aid agencies and downwards through the NGOs, CBOs, and communities, now represents the sort of organization that will enable aid and donor

agencies and government to spend development money more timely and more effectively.

How did all this happen?

Basically the Foundation believes that the best form of development is that which comes from within the community. In Africa various types of development programs have been tried—top down, bottom up, and many variations of this theme. For many years the belief was that the communities whom the agencies and people were trying to help were not capable of making their own decisions but needed decisions made for them. In our experience this argument does not hold. Many sound decisions in the world are made by members of relatively less sophisticated communities. The Foundation right from the start has always believed that decisions regarding development should be made by the *people themselves* with the Foundation acting very largely as a sounding board and as a facilitator to help the communities develop those programs. The ownership of a project or an idea is essential for its success in the future. Communities who feel that the project upon which they are embarking to improve the quality of their lives was their idea and is their project are far more likely to make it work than if that idea has been imposed upon them by an outside agency.

The second ingredient in this successful formula is the development of **TRUST**. The Foundation has worked very hard at establishing a trusting and meaningful relationships, not just with the communities, the NGOs, and the CBOs with whom they operate at the grassroots level but equally with ministries, aid agencies, and donor organizations. Without the trust factor being in place, there is no way in which the Foundation could have been as successful as it has been. As we all know trust is earned and deserved and can therefore only be established through continuous dialogue, tolerance, openness, respect, realism, honesty, dignity, and fairness as critical ingredients. The operator must at all times demonstrate that the commitment is for building long term relationships with the community and not a one-off assignment. Consequently there must be willingness to stay with projects up to the point where they are fully self-sufficient.

The Foundation now finds itself in the position of being a facilitator rather than an initiator organization. By that I mean that the communities, individuals, NGOs and CBOs will come to the Foundation with an idea and say, "Please, help us to put this in place. Can you find us financial assistance or backing for this project? Will you advise us and help us with the financial management of this project," etc. etc. The Foundation responds to these approaches rather than having to go out into the communities with new initiatives and ideas.

One of the reasons why the Foundation has been the success it has, is the very careful selection of the staff who run the organization. It may be possible to turn a successful miner with mining skills into a development person but frequently the skills needed, the so-called soft skills required for the successful running of a development program, do not exist in the same person as the hard mining skills. It is important to recognize that these so-called soft skills are just as important as the technical skills which

are prevalent for the mining industry. Rio Tinto, in my view, recognizes this and recognizes that we must take full account of the needs of our communities.

In conclusion, Ladies and Gentlemen, the fact that Rossing Uranium is able to operate as successfully and peacefully as it does in Namibia is living proof that its policy established 20 years ago has paid handsome dividends. In 1976 the company recognized the need to be a good employer and a good neighbor. The company also recognized the need to establish a high profile development organization that carried the good name of the company into the remote rural communities of Namibia. We hope and believe that we have been successful in meeting these needs in the last 20 years and that these programs give us the sound foundation to build further programs in the years ahead.



## **Social Benefits and Costs of Mining: The Carajás Iron Ore Project**

**John Redwood III, Environment Department, The World Bank, Washington, USA**

### **A. Background**

Following discovery of an estimated 18 billion tons of high quality iron ore and a range of other minerals (manganese, copper, nickel, gold, etc.) in the Carajás highlands in the eastern Amazonian state of Pará, Brazil in 1967, the then state-owned Companhia Vale do Rio Doce (CVRD) began a joint venture with U.S. Steel to develop these reserves.<sup>15</sup> Although U.S. Steel abandoned this initiative in 1977, CVRD, Brazil's largest mining company, proceeded with the project and secured external financing from the World Bank (US\$ 305 million) and other donors (US\$ 1.2 billion) for the US\$ 2.9 billion undertaking in mid-1982. At the time, this was the largest Bank loan to Brazil and one of the largest it had made anywhere in the world.

In addition to the mine installations, this operation involved construction of a railway from the Carajás highlands to São Luis, capital of the neighboring state of Maranhão, port facilities at that location, and other infrastructure and social services, including road construction, new town development, environmental protection, as well as a special (non-Bank-funded) project for Amerindian protection. Project construction was completed in 1986 and full operation began in 1987. At the peak of construction activities (August 1982), nearly 24,000 contracted workers and 2,500 employees of private management consultant firms were directly engaged in project implementation. The total productive life of the Carajás reserves has been estimated to be at least another 400 years.

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<sup>15</sup> The first stage of CVRD's privatization took place on May 6, 1997, when approximately 40 percent of its shares, worth about US\$ 3.1 billion, were sold to a private consortium led by the also recently privatized Companhia Siderurgica Nacional (National Steel Company). Another 30 percent of CVRD's shares are expected to be sold by the Brazilian government later this year, making this the largest privatization in financial terms in Latin America to date.

The Carajás mining operation lies at the heart of a 900,000 square kilometer region—roughly the size of Nigeria or of France and the former West Germany combined—that incorporates substantial parts of the Tocantins, Araguaia, and Xingu River basins (all of which flow northward into the Amazon) and covering large sections of the states of Pará (humid tropical forest), Maranhão (“pre-Amazonia” transition to semi-arid Northeast) and Tocantins (largely “cerrado” or savanna). This area came under a broader multi-sectoral federal government regional development initiative, known as Grande Carajás (or Greater Carajás) Program (PGC), established in late 1980. From the outset, however, the Carajás Iron Ore Project, particularly its transport infrastructure, and a US\$ 4 billion hydropower plant at Tucuruí on the Tocantins River, 200 kilometers north of Carajás (and the largest such project worldwide in a tropical rainforest), inaugurated in November 1984, were viewed by the Brazilian government as key components of the PGC’s broader efforts to stimulate the physical settlement and economic development of Eastern Amazonia. PGC, which included industry, agricultural and infrastructure development, was initially expected to entail total investments on the order of US\$ 60 billion.

The Carajás-São Luis rail corridor, while consisting in the narrowest sense of a strip of land some 80 meters wide by 890 kilometers long (i.e., the rail right-of-way under the legal control of CVRD) actually has a much larger (and expanding) area of influence of some 300,000 square kilometers (i.e., roughly 150 kilometers west of the mine and on either side of the rail line) in the three states mentioned above that are directly or indirectly impacted by the iron ore project. This larger area—generally referred to as the “Carajás corridor”—was, in fact, utilized by the Brazilian government to define the region to be covered under the Special Amerindian Protection Project.

Independently of the Iron Ore Project and the PGC, both the Carajás corridor and the larger region mentioned above have been subject to significant occupation over the past few decades by small subsistence farmers, gold prospectors, loggers, large cattle ranchers, and land speculators. As a result, by 1980, there were already 1.1 million people (1.5 million in 1985) residing in the 14 municipalities immediately cut by the Carajás railroad. Occupation by small farmers, prospectors, and loggers occurred primarily in response to construction of major penetration roads by the federal government—particularly the north-south Belém-Brasília and east-west Transamazon highways—from the mid-1950s to early 1970s, largely unsuccessful directed agricultural “colonization” projects (especially along the Transamazonica) in the early and mid-1970s and the discovery of gold at Serra Pelada, some 80 kilometers to the east of the Carajás mine in 1979. Large ranchers and land speculators, in turn, were attracted to the region by generous federal government fiscal and credit incentives to induce the installation of productive activities throughout Amazonia during the 1970s and 1980s. Together, these policy-driven interventions have had substantial adverse environmental and social impacts, including land concentration, agrarian conflict, severe public health problems (especially malaria), rapid extensive deforestation and an associated loss of biodiversity,

and localized degradation of soil and water resources (e.g., mercury pollution associated with widespread prospecting).

In 1995, the Carajás mines exported on the order of 44 million tons of iron ore, worth nearly US\$ 1.1 billion and some 1 million tons of manganese ore, worth close to US\$ 40 million. Monthly tax revenues from the project in 1989 (based on the sale of 35 million tons of iron ore and 600,000 tons of manganese ore) were US\$ 3.2 million (or US\$ 38.4 million/year) of ICMS (the state value added tax), of which 25 percent returned to the municipality of Parauapebas and the rest to the government of Pará state, plus US\$ 800,000 (or US\$ 9.6 million/year) of royalties, of which 65 percent returned to the municipality. Total direct employment is on the order of 4,200, including more than 1,700 workers at the mine, 1,900 on the railroad, and 500 at the port. CVRD continues to provide financial and other types of support to local indigenous populations and to several towns, especially Parauapebas/Rio Verde, which was created under the project, just outside the Carajás concession along the PA-275 road (which was constructed and paved under the project) connecting the mine site to highway PA-150 (which was upgraded and paved under the project) leading from southeastern Pará to Marabá, on the Tocantins River to the northeast, then on to Belém, capital of the state of Pará near the mouth of the Amazon River.

## **B. The Company as Surrogate Government**

Within the 4,160 square kilometer Carajás mining concession, together with roads and an airport, CVRD built and continues to operate a modern town for its employees, which includes housing, full urban services (water, sewerage, electricity, solid waste, etc.) schools (1,800 students from pre-school through high school), commercial, financial and recreational facilities (including a fully equipped sports club), a zoological and botanical garden, and a state-of-the-art hospital. These facilities are well built and maintained and are comparable to those of an upper middle class North American suburb. CVRD assumes all local government functions for the town of Carajás, which is composed exclusively of its employees and contractors and their families. The town's present population is around 7,000 (over 1,600 families).

At the time the mine and railroad were being installed, urban infrastructure and housing on a much more modest scale than at Carajás township were also provided by CVRD at Parauapebas. More specifically, basic water supply and sanitation facilities and social services (schools and a small hospital) were provided to accommodate a projected 1988 population of up to 10,000. Unlike Carajás township, however, management and operation of the new town of Parauapebas would be the responsibility of the municipal government of Marabá. The municipality of Parauapebas, together with several others, was dismembered from Marabá in 1988, and is now the principal local beneficiary of industrial tax (ICMS) revenue transfers derived from Carajás mine earnings. Prior to its "independence," such transfers went to Marabá and were not generally applied in Parauapebas.

In addition to those directly employed during construction, project implementation had significant indirect employment and income generation impacts both within and outside the immediate Carajás Corridor. Entire townships—especially Parauapebas and its unplanned satellite, Rio Verde—have grown up to provide a wide variety of goods and services, especially commerce, entertainment, public administration, and health and education services, first to construction workers (Rio Verde began as a “red light” district for a large construction camp situated at Parauapebas) and later to those involved in ongoing project operation and other primary sector activities (prospecting, small farming, ranching, etc.) that have developed in their immediate areas of influence.

Population in Parauapebas/Rio Verde and the associated need for urban infrastructure and services has expanded much more rapidly than anticipated. By the late 1980s, this agglomeration was estimated to have a combined population somewhere between 45,000 and 50,000. According to the Demographic Census, the urban and total populations of the municipality of Parauapebas were 55,000 and 85,000 respectively in 1991. The very rapid growth of Parauapebas/Rio Verde reflects a number of factors in addition to the Carajás mines, including a state government decision to locate agricultural colonization projects near CVRD’s concession and extensive gold and other mineral prospecting activities in the vicinity (especially at Serra Pelada), together with the spontaneous establishment of small farms and (incentive-induced) larger-scale ranches in the area. Expansion of all of these activities, however, was facilitated by the road infrastructure (i.e., PA-275) installed in connection with the Carajás project and many of the residents of Parauapebas/Rio Verde were initially drawn to the area as construction workers or to serve the construction camps through commercial activities, restaurants, bars, brothels, boarding houses, pharmacies, and so on, in what is a very common pattern on the Amazon frontier.

More generally, since 1942, CVRD has destined 8 percent of its net profits to support social programs at the municipal level in the regions in which it operates under a program known as “Integration ‘Vale’ and Communities.” While most of these resources have been applied in CVRD’s “southern system” (Mines Gerais and Espírito Santo), part have also gone to the Carajás corridor. In 1996, for example, out of total expenditures of US\$ 26 million, US\$ 5.3 million was provided from this fund to the government of Pará to help repave the PA-275 highway between Curionópolis and PA-150, while US\$ 2.3 million went to the government of Maranhão for investments in socio-economic infrastructure in municipalities cut by the Carajás railway. In addition, new water supply and sewage collection and treatment systems, together with a sanitary landfill, involving estimated total investments of around US\$ 7 million are currently under construction in Parauapebas with financing from a new World Bank loan to CVRD (US\$ 50 million, approved in July 1995).

### **C. Revenues and Responsibilities of Local Governments**

Under the Constitution approved by the Brazilian Federal Government in 1988, local governments are responsible for: (i) collecting local taxes; (ii) providing local public services, including collective transport; (iii) providing, in technical and financial cooperation with the state and federal governments, primary education and health services; (iv) land use planning and control; (v) protection of local historical and cultural heritage; and (vi) supplementing state and federal legislation where necessary and appropriate. Local public services, including water supply, sanitation, and solid waste collection and disposal, can be provided directly by municipal governments or indirectly through concessions to state agencies (water supply and sanitation) or private contractors (solid waste).

Local government revenues are derived mainly from federal and state government transfers, of which the most important are the (federal) Municipal Participation Fund and the Unified Tax on the Circulation of Goods and Certain Services (ICMS)—a kind of value added tax—and local taxes and fees, the most important of which is the urban property tax. For most municipalities, which do not have a large industrial base, federal transfers and urban property taxes are the most significant sources of local revenues. However, due to the location of the Carajás Iron Ore Project within its territory, Parauapebas receives substantial revenues from the ICMS, together with mining royalties.

### **D. Health Problems Associated with Mining Operations**

Given that the Carajás Project is a conventional open-pit operation, health problems directly associated with normal mining activities are largely limited to occasional work-related accidents. Any serious injuries at the mine site, whether work-related or not, are treated at CVRD's well-equipped and well-staffed hospital located within the concession near Carajás township.

Health problems in the larger area of influence outside the CVRD concession include a range of tropical diseases, especially malaria, as well as diseases associated with poor nutrition and inadequate sanitation. Cases of leprosy, tuberculosis and leishmaniasis are also common, as are sexually transmitted diseases and injuries from fights and accidents, especially during the earlier days of settlement. Mercury poisoning can also be a problem in prospecting ("garimpo") areas. Respiratory problems, including children, associated with charcoal production for more than a half dozen local pig iron industries, which are dependent on Carajás iron ore and CVRD's rail transport facilities, are likewise a matter of concern.

In sharp contrast with Carajás township, health services and facilities, while gradually improving, are still generally precarious in the areas outside the mining concession itself, with many patients directly seeking medication (often based on self diagnosis) at local pharmacies, which tend to proliferate in Amazonian frontier towns. While CVRD provides some financial assistance to local hospitals and health clinics in

towns such as Parauapebas and Curionópolis, located near the now largely deserted former Serra Pelada gold prospecting area, this is far from sufficient to meet local needs and most of these facilities remain severely under-staffed and poorly equipped, operated, and maintained. The new water supply, sewerage and solid waste facilities presently under construction in Parauapebas, however, when fully operational, should have a significant positive impact on local public health conditions.

### **E. Social Problems due to Influx of Migrants**

Some of the social problems caused by the urban and rural development induced by (but outside) the Carajás mining complex, in conjunction with a variety of other factors, have already been mentioned. These include poor housing and urban infrastructure, prostitution, public health difficulties, such as those noted above, incidents of violence, including agrarian conflicts which continue to this day and problems affecting Amerindian communities. Clear examples of the former are the massacre (with apparent impunity) by state military police of some 20 landless rural workers at Eldorado de Carajás, near the intersection of the PA-150 and PA-275 highways in April 1996, and a threatened land invasion by landless workers (MST) of areas near the Carajás mining concession in April 1997.

Due to the extremely rapid influx of migrants during the 1980s, expansion of towns and cities in the Carajás Corridor has been largely synonymous with the growth of squatter neighborhoods in which, perhaps, as much as 80 percent of the non-rural population lives. In major centers such as São Luis and Marabá, entire new poor districts have sprung up. As already mentioned, the satellite town of Rio Verde—which now has its own satellite, informally known as “Curiopebas,” housing poor migrants from Curionópolis since the Serra Pelada “garimpo” was shut down—is essentially a poorly serviced large-scale squatter settlement, which mushroomed to a population of some 15,000 in less than five years. In these low-income neighborhoods, the level of formal employment among male adults usually does not surpass 10 percent, with the majority of the working-age population combining seasonal jobs in agriculture, irregular construction work, and prospecting, or being engaged in a variety of marginal urban commercial and service occupations. Women and many children are similarly (under)employed in a wide range of low-paying informal activities. Some of these neighborhoods, moreover, are frequently located in low-lying lands subject to periodic flooding or on hillsides, which are poorly provided, if at all, with municipal services.

### **F. Social and Cultural Problems of Indigenous Peoples**

At the time the World Bank loan for the Carajás Iron Ore Project was appraised, it was estimated that roughly 4,500 Amerindians lived in 14 different reserves, occupying some 2.2 million hectares, within a radius of about 100 kilometers from the Carajás mine and railroad. While all of the groups already received some form of assistance from the National Indian Foundation (FUNAI) prior to the project, this

agency's effectiveness was greatly limited by budgetary, administrative, and other constraints. In anticipation of the expected acceleration of regional development due to the project, a special Amerindian Protection Project was prepared by FUNAI and funded by CVRD in parallel to the Bank financed iron ore operation. The components of this project included: (i) land demarcation and protection; (ii) indigenous health; (iii) education; (iv) economic development projects; (v) special protection measures for the nomadic and relatively unacculturated Guajá Indians; and (vi) administrative support to FUNAI. Its total cost was US\$ 13.6 million, of which US\$ 12 million had been spent by 1990.

A large number of other indigenous groups in the Carajás region eventually benefited under the Special Project. Thus, by the early 1990s, the project's area of influence was estimated to include the homeland of some 14,000 Amerindians, living in over 130 villages in the states of Pará, Maranhão and Tocantins, and representing 15 different tribal groups. More recent estimates (1995) indicate a population of some 17,400 Indians in 24 reserves, involving nearly 3.3 million hectares, located mainly in the state of Maranhão.

As a result of the Special Project, significant improvements in the conditions of indigenous communities occurred in at least two key areas, health and land demarcation. The positive health results, especially among recently contacted groups and as reflected in a 3.7 percent annual increase in the regional indigenous population during the mid and late 1980s, can be largely attributed to the general effectiveness of the health care delivery system established by CVRD's medical consultant in collaboration with FUNAI. As a result of these efforts, both morbidity and mortality rates appear to have fallen significantly among tribal communities in the Carajás region. CVRD continues to provide support for indigenous peoples' health care under the new (July 1995) World Bank loan for environmental conservation and rehabilitation.

With respect to indigenous land protection, some 3.2 million hectares had been identified, demarcated, and/or regularized in 24 reserves as of 1989. The principal achievement in this regard, however, was that CVRD was able to use its financial resources and political influence to induce FUNAI to move several indigenous areas through the long and arduous process of full regularization. This is a particularly noteworthy accomplishment considering, on the one hand, that indigenous lands in the Carajás region have become increasingly coveted by prospectors, loggers, speculators, ranchers, and other interests over the past two decades and, on the other, that significant bureaucratic and political obstacles continue to impede the rapid demarcation of tribal areas generally in Brazil. Through the Special Project, CVRD has also helped to protect the 439,000 hectare Catete Indigenous Area, home to the Xicrín Indians, located immediately to the west of the Carajás mining concession.

Despite these successes, a number of unresolved land-related issues continue to require attention from CVRD and FUNAI, and the potential impact of continued rural settlement and development, including illicit logging, on Amerindian areas in the region remains a matter of serious concern. For this reason, another US\$ 4.9 million has been

budgeted for support to indigenous communities under the new Bank loan to CVRD. Specific actions under this program include: (i) the provision of preventive health care services and basic sanitation infrastructure, informal training, and technical assistance for the development of forest management techniques and other self-sustainable economic activities; and (ii) assistance to FUNAI in completing the demarcation of the Krikati, Awá, and Governador Amerindian areas and protecting indigenous communities in CVRD's area of influence. The program will focus especially on the five communities most impacted by CVRD's operations (the Xicrín of Catete, the Gaviões of Mãe Maria, the Awá of the Awá Guajá reserve, and the Guajajara and Awás of Caru, Alto Turiacu and Pindaré). Each component will be financed by CVRD but implemented by specialized institutions (such as FUNAI and state health services) or NGOs. An Indigenous Peoples Development Plan for the communities along the Carajás railroad most impacted by CVRD's activities was presented during project preparation in accordance with the requirements of the Bank's Operational Directive on Indigenous Peoples.

On the whole, local indigenous communities, either by themselves or with NGO support, have been reasonably successful in obtaining assistance from CVRD. In one well-known case, a tribal group (Gaviões), whose reserve (Mãe Maria) is cut near its southern boundary by the Carajás railway, was able to physically block the railroad, essentially halting all ore and rail passenger transport, until it obtained certain concessions from the company. In allowing the railway to pass through its territory in the first place, the same group was able to negotiate a number of material benefits, including access to electricity and several vehicles.

### **G. Conflicts between Prospectors and CVRD**

Conflicts between gold and other prospectors and CVRD have occurred on a number of occasions. There have been numerous instances where artisanal miners have been found inside and summarily removed from CVRD's mining concession at Carajás by the company's security forces. There have also been several serious conflicts between small-scale miners at Serra Pelada and CVRD, including one incident in the mid-1980s when prospectors burned down the municipal building, jail, and police station in Parauapebas during a demonstration. Competing claims have recently flared up again in response to CVRD's reported discovery of another large (but deep) gold deposit near Carajás in mid-1996.

As suggested above, however, the most severe problem involving frequent conflicts among local populations in and around the Carajás Corridor—and often leading to physical violence—is the complex land tenure situation. Although land conflicts are by no means a recent phenomenon on the Brazilian agricultural frontier, there was a marked increase in rural violence in eastern Amazonia during the 1980s which has continued into the 1990s. To the extent that they have pushed up land values, inducing land speculation and concentration, stimulating in-migration, and encouraging competition for land, the

Grande Carajás Program and the iron ore project share some of the responsibility for this trend.

#### **H. The Role of NGOs in Dispute Settlement and Provision of Social Benefits**

Local NGOs, some of which are linked to church groups and receive support from external sources, are playing an increasingly important role in the Carajás region, particularly those working with small farmers and landless rural laborers. Several such organizations based in Marabá have recently increased their activities in these areas, as have others based in Belém and São Luis. Regional agrarian conflicts and the indirect social and environmental impacts of the Carajás project, pig iron production, and other major investments in eastern Amazonia are the principal concerns of these groups. Some local NGOs are also directly involved in providing legal, health, vocational, and other support to low-income rural (and urban) populations, while still others (e.g., IMAZON, based in Belém) are conducting research into sustainable development alternatives (e.g., sustainable forest management, agriculture, and livestock production in flood plain areas, etc.) for the region. Several international NGOs (e.g., Woods Hole, Cultural Survival) are likewise presently involved in such activities in the area.

#### **I. General Effects on Poverty Reduction Due to Mine Presence**

The immediate area where the Carajás mining concession is located was largely uninhabited, except by scattered and formerly isolated Amerindian populations (Xicrín), prior to development of the project, although the larger surrounding region (particularly to the north and east) was increasingly subject to settlement pressures from a number of public and private sector actors. Much of the existing population in the Carajás corridor, however, was—and continues to be—low income, both in rural and urban areas.

There can be no doubt that the Carajás Iron Ore Project has had—and continues to have—an important positive economic and social impact on its immediate area of influence. CVRD has been a major source of both direct and indirect employment and income generation, as well as local tax revenues. The project and associated investments have also strongly contributed to a large influx of poor migrants seeking jobs, land, and other opportunities and demanding public services, including basic sanitation, health, and education, to a part of Brazil where, at least until recently, such services were largely lacking both in quantity and quality. Even though considerable progress is clearly evident in recent years and CVRD continues to work in partnership with state and municipal governments and other stakeholders to improve local living conditions, successfully combating extensive rural and urban poverty and achieving environmentally sustainable regional development nevertheless remain significant challenges.



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## **Mineral Exploration and the Challenge of Community Relations**

**Ian Thomson, Vice President, Technical and Environment, Orvana Minerals Corp.,  
Vancouver, Canada,**

**and**

**Susan A. Joyce, Consultant, Social Aspects of Resource Development,  
La Paz, Bolivia.**

### **Introduction**

The decision to develop a mine, and the social, socio-economic, and environmental consequences of that decision, comes midway through a process that begins with mineral exploration and continues through closure, decommissioning, and reclamation. In recent years, significant structural changes have occurred in both the minerals industry and the socio-political environment into which the industry has moved, particularly in Latin America. Because of these changes, the point of contact and potential conflict between communities and mining interests over social, socio-economic, and environmental issues, has been drawn forward from the mining phase into the exploration phase. It is the opinion of these writers that the industry, collectively, is ill equipped to handle this reality.

For the last eight years the North American based mining industry has increasingly redirected its activities overseas into new and apparently expanding opportunities. The stock market fall of October 1987 and subsequent recession brought to a close a cycle of exploration and mine development in North America. During this cycle the industry had become frustrated by land withdrawals in Canada and the United States, growing costs, complexity, and uncertainty in the environmental permitting process, and the apparent difficulty of finding new mines in a very well explored part of the world. In the aftermath, Major (integrated exploration and mining) and Junior (exploration only) mining companies started to look overseas in earnest, first to familiar countries such as Chile and Mexico and then for new opportunities. One of the first was Venezuela.

The mining industry found that the rules were changing, not only in Latin America but around the world, as country after country liberalized foreign investment and land ownership, redrafted mining codes, and opened their borders to mineral development in an attempt to invigorate national economies. To the companies, this was (and is) an unprecedented opportunity to explore in areas that had been inaccessible for years and often never before worked using modern exploration technology or considered in terms of modern mining methods. New frontiers were (and still are) opening, offering a vision of unbounded opportunity where the quick and skillful explorer locates and develops spectacular new wealth.

A bull market for Canadian mining companies began in 1991, lasting through to the Bre-X debacle of early 1997. During this time several billion dollars were raised to fund international mineral exploration and mining ventures, more than half of it for projects in Latin America. In the process the Junior, high risk venture capital companies became the dominant force for mineral exploration throughout Latin America and around the world. The trickle of companies moving offshore in 1991 had become a flood by 1994, and large numbers of mineral industry professionals found themselves working internationally for the first time.

Over much the same period of time there has been a significant increase in sensitivity to environmental and social development issues at all levels, from local to international, and a steady growth in the concept of the "rights" of local peoples. In 1987, the World Commission on Environment and Economy, also known as the Brundtland Commission, published its final report "Our Common Future," a seminal document which gave rise to a generalized endorsement for the concept of "sustainability" with respect to the, environment and human development. This, in turn, generated critical discussion, which continues today, about the consequences of both industrial development projects and environmental protectionism on communities which live in and exploit a given area. From 1989 to the present, international organizations such as the United Nations (UN) and the World Bank have responded with initiatives intended to cushion the impact of external forces on local, traditional, and indigenous peoples. Central governments in a number of Latin American countries, Bolivia for example, have formally endorsed at least some of these initiatives, thereby validating the general concept of "rights" in the minds of local populations and advocacy groups.

The net result has been a steadily growing confidence on the part of many communities that they can exercise control over the timing, direction, and process of social, political, and economic development by exerting their rights, real or perceived. For a mining company, this means the prevalence of communities that want to question, manage, or challenge the presence of a company from the first appearance of its personnel in their area. As a consequence, the need to address the social impacts of mineral development is being pushed into the exploration phase.

## Mineral Exploration and the Community

For the mining industry, exploration is an expensive, high risk, and potentially very high reward activity. It requires the opportunity to conduct surveys over vast tracts of land and to visit, examine, and evaluate innumerable mineral occurrences in the search for the rare economically viable deposit. Exploration is a dispersed and transitory activity characterized by uncertainty and ambiguity: a problematic situation from the point of view of company-community relations. This is in marked contrast to mining which takes place at fixed locations and over extended periods of time. Where a mine exists, company-community issues can be focused around the relatively stable realities of a productive commercial venture.

The dynamics of company-community relationships at the exploration stage are driven by some unique characteristics; most notably that there is no certainty that any individual exploration project will become a mine. Industry experience suggests that less than one in a hundred mineral showings are considered worth evaluating, while barely one in ten advanced exploration programs go to feasibility. Nor is there any certainty as to which company will be the final operator of a project. A junior company may deal the property to a major company for development of a mine, or it may pass through the hands of various juniors and/or majors before the right circumstances are found for mine development. Furthermore, exploration projects typically proceed episodically, with periods of intense activity (e.g. drilling) separated by periods when there is little or no activity on the property. The process is often protracted and it is not uncommon for several years to elapse between first identifying the economic potential of a mineral deposit and the decision to mine.

In our view, there are two key factors which structure the relationship between communities and mining companies, and which also have considerable impact on how exploration activities are viewed. First, there is the cultural distance between modern business practices of developed countries as represented by exploration activities, and traditional communities, indigenous or otherwise, which may be isolated and are at times only marginally integrated into their own nation. Second, and following from the first, the extreme power differential that inherently exists in any contact between two such groups.

The local community typically views exploration activities in isolation, with little knowledge of the larger picture within the minerals industry, and is therefore uncertain and frequently fearful as to what is implied by exploration activities. The community does not normally understand the high-risk nature of mineral exploration or the time frame required to prove the economic viability of a deposit. Communities frequently assume that a company would only invest the considerable sums of money and the time required for advanced exploration if they were certain that a profitable mine would be developed. This results in expectations or fears which seem perfectly justifiable on the part of the community, but which may not correspond either to reality in terms of a mine being developed, or to what the exploration company is telling them, if they are being told anything at all.

To the community a junior and a major company are indistinguishable and appear equally rich, powerful (aligned with particular vested interests, either economic or political), and potentially threatening. Typically, the community has a fear of being marginalized and an intense desire for information about what is going on. They look first to the company to provide answers to questions. In the absence of direct information, or when misconceptions about the exploration activity exist, ill-founded rumors or incorrect information can gain credibility. The community may become increasingly fearful and come to believe a worst case scenario. This situation of fear and distrust, which arises from the lack of communication by the exploration company, or lack of development of an understanding between company and community, opens the door to the involvement of outside interest groups, and may severely impair later efforts to dialogue or negotiate.

The response of a community to what appear to be powerful mining interests will be conditioned by past experiences and the extent to which they feel threatened by what they believe to be the impacts of future mining activity. In an area with no history of mining, the community may be quite naive and passive towards exploration activities taking place around them, believing something good may accrue through job opportunities or associated development. More common today, however, is a high degree of sensitivity to what the community regards as an assault on their land or way of life, to which they may respond aggressively. The response in communities with a history of mining can be equally diverse. Some may welcome exploration as heralding a return of wealth; others may be hostile to the presence of foreign interests or oppose a return to the environmental and social destructiveness experienced in previous mining activities. Where small scale, artisanal mining is well integrated with the local economy, there may be widespread fear that it will be displaced by modern mining, destroying the traditional livelihood and way of life of the community. Without knowledge of the community, its hopes and fears, traditions and social norms, the exploration company may unintentionally provoke conflict, with negative consequences to all parties.

### **The Culture of Mineral Exploration**

Regrettably, the culture of mineral exploration does not encourage good community relations. For exploration personnel the paramount issue is access to land, while for communities it is protection of their traditional resource base. The mining codes of most countries in Latin America provide for a right to explore, and this right is often taken as an unconditional license for companies to go where they want and do what they will. Although there is often additional legislation requiring explorers to recognize the legal rights of people occupying the land, there may be a significant difference between local customs towards land use and access and the formal legal land rights. In more traditional and isolated communities, national laws may be poorly understood and have very little relevance to how people live and manage their resources, leaving ample room for offending local customs. From the community point of view the culture of exploration can be arrogant, insensitive, and very threatening.

Today's mineral exploration is highly competitive, high cost, and, until the later stages of a project, secretive. The industry respects technical skill, business acumen, and aggression: success is measured by rate of discovery. Competitive advantage is often a case of knowing where a good mineral property is located or the geological controls to a certain type of mineral occurrence. There is immense pressure to be cost effective. Funds are allocated for sufficient work to locate or advance properties of merit to see if they have the potential to become an economic mineral resource. The ability to make good business decisions as to the worth of a mineral deposit, based on available technical information and experience, is considered essential. There is a general belief that exploration is a "low impact" activity while mining is the "high impact" phase when community and environment become "real issues". However, damaged relations with local communities through unintentional offenses, or the failure to address the community's fears or expectations during the exploration phase(s), can have serious impacts on both the cost and the timing of bringing a mine into operation.

A number of junior company characteristics further compromise the potential for good community relations; most important is the fact that their involvement in a project is normally expected to be transitory with no long term vested interest in the potential impact. They do not necessarily consider the community to be "stakeholders" in the development of the exploration project. Typically there is a superficial attention to or appreciation of local concerns. Often the relationship is limited to providing temporary employment for local people. In addition, the juniors are results driven, strongly oriented to the venture capital markets, and thus focused on the technical aspects of a project. Community relations are, at best, a secondary consideration.

Given the uncertainty of success, there is little internal interest for the company to develop community relations until a project is well advanced. Moreover, because the background of exploration personnel is in science and business, knowledge of social and socio-economic matters is limited and the skills required for cross-cultural relations are not normally present. Currently, the prevailing attitude amongst exploration groups appears to be one of avoiding or limiting interaction with local communities to an "as needed" basis unless there is some compelling reason to do more. By way of contrast, these same companies often show a high level of interest and responsibility towards environmental management practices, which are concrete, scientific activities. This is a reflection of the scientific training of many exploration personnel, and the commitment to the environment that has become instilled in a new generation of mineral industry professionals.

With respect to the less tangible social issues, there is a widely held confidence amongst the juniors and, unfortunately, some of the majors, that by simply following the legal code, mining code and environmental regulations of any country, a company has inherently met all obligations to the local community as well. Almost every country in Latin America has brought in legislation during the last ten years that specifically encourages mineral exploration and mine development. To a majority of exploration groups such legislation carries a tacit understanding that the State will manage or mediate

their relationship with local communities and maintain law and order until a mine is proven. This is a first world assumption that is not necessarily valid in developing countries.

### **Socio-political Pressures**

The mineral exploration companies that moved into Latin America over the last few years have taken with them first world attitudes, cultural conventions and business practices. There, they have encountered a rising movement promoting the rights of indigenous and local people, as well as international environmental activism opposing the development of modern mining operations. In many places an alliance of convenience exists between these interest groups which uses both social and environmental arguments to develop local opposition, as well as to rally developed country public support.

The socio-political pressures on mineral exploration and mining are going to increase. A turning point occurred in 1989 with the International Labour Organization of the United Nations formulation of International Convention 169 "Concerning Indigenous Peoples and Tribes in Independent Countries" which is a strong, wide ranging, and very widely known endorsement of the rights of the indigenous people to control their lives, territories, and development processes. With this resolution, the rights of indigenous and traditional populations came onto the agenda of countries throughout Latin America. A bottom-up linkage of indigenous and traditional groups keeps the issue of rights very much alive, supported in many places by regional and international interest groups. Of particular relevance to the minerals industry is that, although the Convention recognizes that mineral resources may be owned by the State, it states, *inter alia*, that there should be consultation with communities prior to authorizing any exploration or exploitation of mineral resources. In addition, communities should benefit from the activities, as well as receive indemnification for potential damage resulting from such activities.

The UN Human Rights Commission, which is now the central forum for these discussions, is developing a framework within which indigenous groups will be provided with "space" so they can participate in decision making processes. With respect to mining, the UN is promoting the concepts of: 1) free and informed consent, 2) participation in the benefits of development, 3) compensation, and 4) the mitigation of adverse effects. The mining industry can expect local communities to be very well informed of these principles through the efforts of non-governmental organizations (NGOs) and religious groups. Items one, three, and four are of consequence at the exploration stage.

Socio-political pressures are building from the ground-up as well, which are not reflected in the formal structural changes attracting mining companies into Latin America. It is important for the exploration industry to recognize that in developing countries, local realities do not necessarily correspond to national level structures and legal frameworks. This is particularly true in countries with substantial indigenous

and/or traditional rural populations such as Andean Latin America. Central government presence is often very weakly developed or absent outside of the cities, in addition to which the central government may be seen as a negative or repressive presence, and not a positive one, as is frequently assumed. In place of central government, quasi stable organizational structures exist, either traditional cultural structures or newer political/organizational ones, that serve to protect the interests of the local people. For such communities the reference base is typically not the State but local or regional groupings such as traditional cultural identities or specific interest groups (peasant unions, miners unions, regional or national indigenous organizations).

The historical poverty and at times repression of rural communities in Latin America has given an important role and a high degree of influence to numerous intermediate organizations, such as NGOs, religious groups, and more recently international environmental and indigenous organizations. Such organizations support the rights of communities and provide them with (at times selective) information on international treaties, standards, and networks, regardless of whether or not the State has ratified such treaties. The activities of these organizations are often part of larger political struggles, with agendas which may not always correspond to the priorities of local communities.

Exploration companies must, therefore, realize that they cannot rely on government to inform the community of resource development practices or guarantee their acceptance, nor should they expect government to enforce the rule of law as a means of resolving conflicts. Rather, companies must engage the community directly and deal with the local situation as it exists. They have to be prepared to resolve or, better still, be proactive in avoiding conflict by themselves.

Given the relationship that exists today between capital-hungry national governments and public-opinion sensitive international institutions such as the UN and World Bank, the possibility exists that a legislative solution will be developed to resolve perceived problems in the relationship between mineral exploration and communities. This should not be regarded by industry as a satisfactory course of action. The diversity of communities and the range of positive company-community relationships that can develop mean that flexibility must be retained for the benefit of all players. This requires that industry take a leading, pro-active role in improving social relations between communities and companies. The creation of positive models of community-company relations which enhance the potential future benefits to both sides will pave the way for more constructive, less confrontational dynamics in general, especially as and when these models become known through increasing electronic communications and the global networking available to communities.

## **A New Culture for Mineral Exploration**

The mining industry must move quickly to change the culture of mineral exploration if it wants to keep working in some of the most prospective areas of South America. Failure to do so will result in more projects being disrupted or stopped completely, and it has implications for public perceptions of the industry as a whole. There is a real lack of collective experience and an absolute shortage of people within the exploration industry to take on this challenge but if changes do not come from within, there will be legislation imposed that obligates companies to follow certain procedures.

Exploration could learn much from the operational sector of the industry. Over the past ten years mine operators have developed strategies, policies, and the concept of best practices in community relations in response to social and political pressures and the introduction of legislation. The Environmental Impact Statement and the Environmental Impact Assessment processes now serve to modulate the relationship between mine and community. Responsible companies regard these as minimum requirements, however, and that working to higher standards is necessary to ensure real success.

It is essential for the successful advancement of a mineral property through exploration to mining that the company have a positive relationship with the community and that it hands over the project to the mine operator in social, socio-economic, and environmental “good standing”. Building a positive relationship between company and community during the exploration stage requires care, patience, and corporate commitment. The relationship will be subject to constant change as a project either advances or fails to meet the corporate objectives. As a project advances the stakes are raised on both sides—a reality that must be confronted and managed. Establishing a dialogue is absolutely critical. Both sides need to be prepared to listen, most particularly the company. The ability to communicate in a context of uncertainty requires the development of a trust relationship between the company and the community. What is required to build trust will depend on local realities. Sensitivity to local customs is important and open dialogue over the hopes and fears of the people is essential. Some form of community relations program should be developed based on an open exchange of information in which great care is taken to work with locally-recognized authorities, and to avoid making false promises or creating unrealistic expectations on both sides.

Above all else, exploration has to respect the local community and its rights, real and perceived. Community hopes, fears, and ways of seeing the world must be listened to with open-mindedness, not through the cultural filters of developed country value systems and/or predetermined categories. Only by fully accepting how the community thinks, what it values, and what kind of future its people want to see develop for themselves, can a company hope to develop, with them, a project which advances the interests of both parties. This alone will keep the debate focused on the real impacts, benefits, and risks between the parties involved. By this single adjustment of attitude and behavior, the power differential between company and community, which is the ultimate source of most conflictive situations, can be largely removed.

It is quite unrealistic to think that changes in the culture of an entire industry sector will be driven solely by moral and ethical considerations. An economic stimulus is required so that risk and reward, the prime forces in resource development, remain in balance. A simple desire to stay in business will be enough for some, but there could be a more persuasive force. We suggest that placing and maintaining a project in social and socio-economic "good standing" can be considered "value added" in the same way that exploration which defines the grade and tonnage of a mineral deposit is regarded as adding value to a property. The alternative, a problematic or conflictive relationship with the community, which might deteriorate to the point where it threatens the viability of a project, is clearly negative value since considerable investment will be required to mitigate or recover the situation. In this context, skill in handling the constantly evolving relationship between company and community during the exploration phase becomes a new competitive advantage.

There is potential for leadership by the operating companies who should recognize the enhanced value offered by projects that come to them in social "good standing". An assessment of the socio-economic situation surrounding a project should be part of the due diligence and valuation conducted when a property is optioned or purchased. Payment of a premium price for delivering projects maintained in "good standing" through exploration would help provoke the acceptance of new standards for industry practice. This will be increasingly true as the social issues of community rights outlined above become publicly accepted conventional wisdom, as has occurred with environmental issues over the past two decades.

There will be those who feel that such changes will unnecessarily increase costs. The effort will be wasted, a burden on the industry that should only become a requirement when a project has some strong signs of being potentially viable. We would argue that company-community relations begin the day a geologist arrives on the ground: first impressions are long lasting. Community opinions and attitudes can become deeply entrenched quite quickly, and a polarized situation can exist long before the company considers the project capable of becoming a mine.

Developing and applying the skills to handle company-community relations during the exploration phase is essential. They are already a cost of doing business, but up until now have been deferred to the mine phase. Exploration organizations now need to consider employing specialists with relevant training to research, design and implement effective community relations programs, and ensure that appropriate linguistic abilities are available to facilitate communication. There should be support for project managers to focus on community relations, and managers should be held accountable for implementation. Just as consultant geophysicists bring necessary skills to optimize mine finding, appropriate expertise must be built into a project to ensure that it is in good social standing. Companies that succeed and prosper into the next century will have done all this and more.

This discussion has used Latin America as a point of reference. Our opinion is, however, that we are looking at a phenomenon with world wide implications. Successful

modern mining should begin with the highest standards of work during the exploration phase. It is both common sense and good business practice to be environmentally responsible and actively conscious of a company's inherent position within, rather than outside, the community from the earliest stages of part-time residency. There should be a seamless transition in social relations as a project passes through exploration and is then handed on to an operating group for mine development. The challenge for all mining companies is to understand that social, socio-economic, and environmental issues are relevant to them at all stages of activity and act accordingly.

# **Annex: Mining and the Community**

## *QUITO, ECUADOR* **CONFERENCE AGENDA**

### **Day 1: May 6, 1997**

8:30 **Registration**

9:00 **Welcome**

Secretary General of the Conference, Ing. Luis Carrera de la Torre, Consultant,  
Environmental Issues, Ecuador

Peter Van Der Veen, IENIM, World Bank

9:10 **Introduction:**

Ing. Jorge Sevilla, Subsecretary of Mines, Government of Ecuador

Gotthard Walser, IENIM, World Bank

9:40 **Indigenous Issues:**

Chair: Peter Van Der Veen, World Bank; Overview: Julian Burger, United Nations  
Commission on Indigenous Communities; Discussants: (i) Hans Matthews, President,  
Canadian Aboriginal Minerals Association, Canada; (ii) Miguel Carvajal, Quito,  
Ecuador.

11:10 Coffee

11:40 **Legal and Consultative Processes:**

Chair: John Strongman, World Bank; Overview: Fernando Loayza, Subsecretary  
of Mining and Metallurgy, Bolivia; Discussants: (i) Gladys Jimeno, Indigenous  
Affairs, Colombia; (ii) Francisco Vintimilla, CEDENMA, Ecuador.

1:00 Lunch

3:00 **Economic Benefits and Costs:**

Chair: Thomas Hentschel, MEDMIN, Bolivia; Overview: Carlos Aranda,  
Southern Peru Copper Corporation, Peru; Discussants: (i) Juan Antonio Morales,  
President, Central Bank, Bolivia; (ii) Leo Couteure, Abitibi, Canada

**Day 2: May 7, 1997**

9:30 **Social Benefits and Costs:**

Chair: Meredith Sassoon, Mining and Environmental Management Consultant, U.K.; Overview: Kathleen Anderson, Centre for Resource Studies, Queen's University, Canada; Discussants: (i) Anders Rudqvist, Stockholm University, Sweden & World Bank, Washington D.C.; (ii) Cristina Echavarría, University of Antioquia, Colombia.

11:00 Coffee

11:30 **The East Asian Perspective:**

Social, Cultural and Environmental Impacts of Large-Scale Mining: Examples from Vietnam and the Philippines

Chair: Gotthard Walser, World Bank; Overview: Allen Clark, East-West Center, Hawaii, USA; Discussant: Stephen Davis, WMC, Australia.

1:00 Lunch

2:30 Five concurrent workshops will take place. Participants will be asked to select a workshop and second and third choices in case of over subscription

**Workshops**

**Workshop A: Consultative Processes: Case Study: Guyana Bauxite and Gold.**

Chair: Alyson Warhurst, University of Bath, U.K.

Presentation: Dennis Canterbury, University of Guyana.

Discussant: Jeffrey Davidson, Placer Dome, Venezuela.

**Workshop B: Legal Issues and Community Rights: Case Study: La Escondida, Chile.**

Chair: José Miguel Sanchez, Universidad de Chile, Santiago, Chile.

Presentation: Jorge Fernando Zeballos Ortiz, BHP, Chile.

Discussant: Hector Gómez Salazar, Legal Advisor, Antofagasta.

**Workshop C: Economic Benefits and Costs: Case Study: Paredones Amarillos, Mexico**

Chair: Alberto Pasco-Font, GRADE, Perú.

Presentation: John Dobra, University of Nevada, Reno, USA.

Discussant: Dr. Jorge Alban, Subsecretary, Environmental Protection, Ecuador.

**Workshop D: Social Benefits and Costs: CVRD, Carajas, Brazil.**

Chair: Meredith Sassoon, Mining Environmental Management Consultant, U.K.

Presentation: John Redwood III, World Bank.

Discussant: Myriam Cabrera, CoDevelopment Canada.

**Workshop E: Management Practices and the Community: Rio Tinto Zinc and Rossing Foundation, Namibia**

Chair: Thomas Hentschel, MEDMIN, La Paz, Bolivia.

Presentation: Charles Kauraisa, Rossing and the Rossing Foundation, Namibia.

Discussant: Germán Usnayo Veizán, Oruro, Bolivia.

4:00 Coffee

4:30 Continuation of Workshops

**Day 3: May 8, 1997**

8:30–10:30 Presentation of Results of Workshops

10:30 Coffee

11:00 **Roundtable:** Mining, Society, and Culture: Conflicts, Tradeoffs, and Complementarities

Chair: Craig Andrews, World Bank.

Speakers: Carlos Espinosa, Mayor, Portovelo, Ecuador;

Nina Pacari, Director, National Council for Black and Indigenous Peoples, Ecuador;

Hector Huertes, Congreso General KUNP, Panama;

Felipe Ruiz, Placer Dome;

Jorge Sevilla, Subsecretary, Mining, Ecuador.



## References

- CAMBIOR (1996), "Annual Report," Montreal, Canada.
- Canterbury, D. (1994), "Colonial and Nationalist Histories of Sugar and Bauxite," ISWB Project, Phase I Report, IDS/University of Guyana, Georgetown, Guyana.
- Canterbury, D., Carmichael, C., and Thomas, C.Y. (1994), "A Report on Rural Poverty Studies in Guyana," IDS/IICA, Report Prepared for Poverty and Human Development Workshop sponsored by the World Bank, Georgetown, Guyana.
- Canterbury, D., Shook, M., and Williams, D. (1996), "Community Perspectives of ISWBs and their Changes During Colonial, Nationalized and Privatized Eras," ISWB Project Phase I Report, IDS/University of Guyana, Georgetown, Guyana.
- Daily, V.T. (1966), "A Short History of the Guyanese People," Daily Chronicle Ltd., Georgetown, Guyana.
- Forte, J. (1995), "Impact of Sugar, Bauxite and Gold Industries on the Indigenous Peoples of Guyana," ISWB Project Phase II Report, IDS/University of Guyana, Georgetown, Guyana.
- GAHEF (1989), "An Environmental Profile of Guyana and A Program for Environmental Management," Georgetown, Guyana.
- Gobierno de Colombia (1996), "Reglamentación del Proceso De Consulta Previa A Los Pueblos Indígenas," draft mimeo, Ministerio del Interior, Dirección General De Asuntos Indígenas, Bogotá, Colombia.
- GOInvest (1996), "Labor Relations and Labor Legislation," Georgetown, Guyana.
- Ministry of Finance (1997), "Guyana Annual Budget," Ministry of Finance, Georgetown, Guyana.
- Mars, Perry (1990), "The Impact of Large Scale Gold Mining on Surrounding Communities: Golden Star Operations at Mahdia," IDS/University of Guyana, Georgetown, Guyana.
- Mars, Perry (1995), "Socio-Political Impact of Large-Scale Gold Mining in Guyana: Resolving Tensions Between Capital and Labor," ISWB Project Phase II Report, IDS/University of Guyana, Georgetown, Guyana.
- McMahon, Gary (1997), "The Natural Resource Curse: Myth or Reality?" mimeo, Economic Development Institute, World Bank, Washington, D.C.
- Omai Gold Mines Limited (1993), "The Insider, Nos. 15 & 16," Georgetown, Guyana.
- Omai Gold Mines Limited General information (undated), Georgetown, Guyana.
- Parsons, R.B. (1996), "Review of Guyana's Mining Tax Regime," Price Waterhouse, Toronto, Ontario.
- Quamina, O.T. (1987), *Mineworkers of Guyana*, Zed Books, London, U.K.

- Rawana, D. (1996), "Environmental and Health Impacts of the Sugar, Bauxite and Gold Industries," ISWB Phase II Report, IDS/University of Guyana, Georgetown, Guyana.
- Roberts, R. (1995), "Public Involvement: From Consultation to Participation," in F Vanclay & D Bronstein (eds), *Environmental and Social Impact Assessment*, John Wiley & Sons, London, U.K., chapter 10.
- Thomas, C.Y. (1995), "Omai's Gold Production In Guyana," ISWB Phase II Report, IDS/University of Guyana, University of Guyana, Georgetown, Guyana.
- Thomas, C.Y. (1994), "The Future of Linmine and Its Associated Bauxite Communities," IDS/University of Guyana, Georgetown, Guyana.
- World Bank (1996), *The World Bank Participation Sourcebook*, World Bank, Washington, D.C.
- World Commission on Environment and Development (1987), *Our Common Future*, Oxford University Press, Oxford, U.K.

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