

REPUBLIC OF PAKISTAN

MINERAL SECTOR DEVELOPMENT POLICY NOTE

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Draft Report

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ABBREVIATIONS AND ACRONYMS

APT	Additional Profits Tax
CBR	Corporate Board of Revenue
EA	Environmental Audits
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
GDCP	Geo-Data Center of Pakistan
GSP	Geological Survey of Pakistan
GST	Goods and Services Tax
MDRL	Mineral Deposit Retention Licenses
MIFA	Mineral Investment Facilitation Authority
MIFB	Mineral Investment Facilitation Board
NMP	National Minerals Policy
PMDC	Pakistan Mineral Development Corporation
SEA	Sector Environmental Assessments
VAT	Value Added Tax

REPUBLIC OF PAKISTAN: MINING SECTOR POLICY NOTE

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Summary and Conclusions

Pakistan is generally regarded to be endowed with extensive geological potential. However, unlike other developing countries with good mineral endowment, it has not yet been able to promote growth and alleviate poverty by exploiting its natural resources to the maximum extent possible. The development of its mineral resources has been limited to numerous quarries producing industrial minerals of limestone, rock salt, marble, gypsum and a modest amount of coal for internal power generation.

The country's mining industry is dominated by the public sector through federal and regional development corporations. Foreign investors are mainly from China due to their historic political ties with Pakistan. Consequently there has been little or no modern exploration, and what development has occurred has been restricted to simple technologies, without the benefit of the private sector and foreign investors with modern management, capital and technical know-how. Consequently mineral exploitation contributes only 0.4% of GDP at present despite government's interest in developing the sector.

Existing geological anomalies under varying stages of investigation by Geological Survey of Pakistan and the state owned Regional Development Corporations are economically interesting and comprise among others, the Duddar zinc-lead deposit, the Saindak copper-gold deposit, Punfmin iron ore deposit, the AKMIDC poly-metallic deposit and the private sector porphyry copper/gold prospects at Tethan Copper and Reko Diq. Based on the experience of other countries with similar geological endowment, it is estimated, that under reasonable assumptions these could be turned to account and generate significant growth and local economic development. Even if these occurrences represent 25% of the country's potential, the mineral sector with sufficient capital and a favorable investment climate has the capacity to contribute annual revenues and foreign exchange in the range of \$1.5-2.0 billion or 2-3 % of GDP, stimulate secondary and tertiary economic activity, promote growth and provide employment and community development in largely remote regions of the country. The main reasons why this potential has not been developed seems to be the country's traditional focus on manufacturing and agriculture, and an unattractive investment climate.

Mining Sector Policy Environment

The Federal Government of Pakistan regards mining as a priority sector and has recently in cooperation with the Provincial Governments issued a National Minerals Policy (NMP). The policy document is comprehensive covering all of the key-aspects for the development of the mining sector, namely (i) objectives, (ii) constitutional position of minerals, (iii) establishment of a regulatory framework, (iv) sector institutional framework, (v) licensing types and conditions, (vi) environmental protection, (vii) fiscal regime, (viii) small scale mining, and (ix) social development and a number of miscellaneous matters. The document not only articulates mining policy aspects but also covers a number of legal regulatory aspects which in other mining countries are defined in the mining code and associated regulations.

To facilitate the implementation of the NMP and investment in the mineral sector, the Federal Government has established the Mineral Investment Facilitation Board, chaired by the Prime Minister and in the provinces and special Areas, a Mineral Investment Facilitation Authority,

chaired by Chief Minister. Furthermore, in each of the provinces separate Departments of Mines and Minerals have been established with the mandate to grant mining licenses and leases, collect fees and royalties and monitor activities in the mineral sector. The Departments are also responsible to maintain updated master plans showing positions of all exploration licenses and leases granted, renewal assignments and surrender of mineral titles, relinquishment of acreage etc. and make this information public through regular publication of complete details in the official gazette. The Departments of Mines and Minerals are organized in three divisions for (i) Licensing (ii) Exploration Promotion and (iii) Inspectorate of Mines. Although all of the provinces have now a lead agency responsible for implementing the NMP, these agencies are not functioning in a manner that conforms to international best practice, with respect to overall institutional capability to carry out the necessary responsibilities under a modern law and policy.

In order to succeed in attracting private investments, the framework needs to compare favorably with the frameworks of other successful mining countries, which have reformed their mining sectors recently (see Annex 1). These countries have placed emphasis on modern administration setups based on access, and transferability of rights, security of tenure, operating rights and obligations. This will require a comprehensive comparison of the existing framework in Pakistan with those of the recently reformed mining countries in order to determine specific areas and options for improvement. In Pakistan's case, particular emphasis will need to be given to: i) the modernization of mineral law, regulations, and fiscal regime; ii) incorporation of environmental controls and social mitigation; and iii) mandates and functions of mineral institutions and agencies.

In addition to the sector specific institutions, the mission also met with the Environmental Protection Agency (EPA), the Geological Survey of Pakistan (GSP) and the Pakistan Mineral Development Corporation (PMDC). The officials of the EPA expressed concern about the need to properly mitigate the environmental and social aspects of mining and raised in this context issues of Sector Coordination and Management, including the lack of present Government capacity to monitor and manage these aspects.

Both the GSP and the PMDC are assessing their roles/activities in the context of their new mandates as defined in the NMP. Whereas for the GSP this involves a reorientation away from an exploration focus to an organization solely focused on the collection, ordering and dissemination of nationwide earth science information, already one of its main activities: the proposed shift in activities for the PMDC is more fundamental from operator to promoter as a result of the proposed privatization of its mining operations. Both organizations are presently examining how to position for the future.

Conclusion

Despite a commendable achievement in harmonizing policy and regulations among the Federal and provincial governments through the NMP and the provincial rules, the conditions and procedures for private investment in and development of mineral resources in Pakistan are not particularly attractive/competitive in the current global market. It is recommended that Federal policy and provincial regulations be brought more in line with international best practice in the following areas:

- ***Institutional Capacity.*** The Public Mining Institutions lack the technical capacity, managerial skills, and material support for the implementation of the National Minerals Policy in order to improve the development of the mining sector. It is necessary to create, over a period of 3-5 years, the organizational capacity and trained manpower which will allow the institutions to fulfill their functions as regulatory bodies, supervisors and promoters of private investment.
- ***Institutional Structure.*** The focus of the licensing division of the Departments of Mineral Development should be exclusively on the processing of applications for, and the grant or refusal, recording, maintenance, amendment, transfer, renewal and cancellation of mineral titles, and the compilation and publication of information related thereto. There is a need for a separate mines department and inspectorate, as well as an environmental permitting and compliance monitoring unit, in the Departments of Mineral Development.
- ***Information.*** Rigorous rules for the use and maintenance of a registry of applications for mineral rights should be established and implemented.
- ***Standardization.*** The procedures for the grant of reconnaissance and exploration licenses should be simplified and speeded up. Overall, the criteria and procedures for the processing of applications for and grant of mineral rights are in need of substantial streamlining, standardization, rationalization and objectification, starting with the establishment of standard map-based criteria for locating areas subject to all mineral rights.
- ***Transferability.*** The international trend is to allow transfers of titles with greater ease than under the provincial rules in effect in Pakistan.
- ***Security of Tenure.*** Reconnaissance and exploration rights should be made exclusive as to (at least) all metallic and precious minerals, in order to effectively compete for investment capital. Longer terms and renewal periods for reconnaissance and exploration licenses are necessary for international competitiveness; and the terms of the MDRL should be re-considered. Discretionary political criteria should be eliminated from the process for the grant or refusal of mining leases. Grounds for cancellation should be limited to failure to comply on a timely basis with one or two specific, financial, title maintenance obligations.
- ***Obligations.*** Consistent with international best practice, it is recommended that the provincial rules distinguish between title maintenance obligations, on the one hand, which must be met in order to maintain the validity of the mineral title, and operating obligations, on the other hand, non-compliance with which is punishable by fines and suspensions of operations pending remediation.

- ***Environmental Protection.*** The respective scope of Federal and provincial regulation is in need of clarification. The impact of mineral development projects on the social environment should be given greater attention. Environmental mitigation requirements for exploration need to be adapted to the normal progression of exploration work; and more specific rules are needed as to the implementation of environmental and social mitigation measures and the provision of environmental surety.
- ***Stability.*** The mineral agreements authorized by the NMP and the implementing rules of the provinces, while helpful to investors, are time-consuming, costly, and inefficient as a means of regulating mineral exploration and production activities. International best practice relies on standardized terms and conditions in the law, stabilized by standard form, non-negotiable, fixed-term stability agreements available to investors who qualify by committing to an investment program that exceeds a specified threshold amount.
- ***Fiscal Regime.*** Pakistan has a contemporary and complete set of laws dealing with corporate income tax, mineral royalties, customs duties, and other imposts that are important to the mining sector. The NMP sets out a fiscal framework that was agreed to by consensus of the federal and provincial governments. These laws and the NMP contain some significant provisions that are favorable to attracting investment to the sector. However, these laws and the NMP also contain some possible constraints to attracting investment. Perhaps most notably, the fiscal “package” of income tax, royalty, and customs duty rates makes Pakistan relatively uncompetitive internationally as compared to other mineral endowed nations that are actively seeking to attract investment capital.

Recommendations

Based on the above findings, it is recommended that the Government:

- a) Prepare a Mining Law and Regulations based on the National Mining Policy;
- b) Review the Mining Fiscal Regime as presented in the Mining Policy Statement;
- c) Implement Institutional Strengthening and Capacity Building for the Departments of Mines and Minerals, both at the Federal and Provincial levels, to put in place the capabilities needed to implement the National Mining Policy and administer the sector including, in particular, improvements to the mining tenement management system and geological information systems;
- d) Prepare and implement key environmental and social measures to ensure adequate environmental protection and social mitigation of mining-related impacts.

CHAPTER I – THE MINERAL INDUSTRY IN PAKISTAN

Pakistan is generally regarded to be endowed with extensive geological potential. However, unlike other developing countries with good mineral endowment, it has not yet been able to promote growth and alleviate poverty by exploiting its natural resources to the maximum extent possible. The development of its mineral resources has been limited to numerous quarries producing industrial minerals of limestone, rock salt, marble, gypsum and a modest amount of coal for internal power generation.

The country's mining industry is dominated by the public sector through federal and regional development corporations. The public mining corporations are: Punjmin involved in the mining of 8 minerals (with a mine output of less than 300,000 tones for each of seven mines and 1,215,634 tones for building material), Pakistan Mineral Development Corporation in 11 minerals (with a highest single mine output of 223,155 tones for rock salt in Warcha), Federally Administrated Tribal Areas Development Corporation in 10 minerals (with an annual high single mine output of 319,000 tones for limestone), Balochistan Development Authority in fluorite (311 tones), Sarhad Development Authority in 4 minerals (no production statistics for the past three years), Azad Kashmir Mineral and Industrial Development Corporation in 12 minerals (with 4,873 gems of ruby as highest output) and Pakistan Steel in mining limestone (204,921 tones) and dolomite (168,464 tones). Foreign investors are mainly from China due to their historic political ties with Pakistan. Consequently there has been little or no modern exploration, and what development has occurred has been restricted to simple technologies, without the benefit of the private sector and foreign investors with modern management, capital and technical know-how. Consequently mineral exploitation contributes only 0.4% of GDP at present despite government's interest in developing the sector.

Small-scale and Artisanal Mining. The existing small-scale and artisanal sub-sectors involve principally the production of precious, semi-precious and dimensional stones, and also coal mining in the Balochistan and Sindh Provinces.

Gemstones

Pakistan is endowed with good deposits of the finest and valuable gemstones, but has not been able, in spite of its ample gemstone deposits, to capture a significant share of the world gemstone market.. The reported value of the 2001 year export of gemstones in Pakistan varies depending on the source from US \$2.2m (GSP statistics for 2001) to unofficial estimates of up to US \$200m. In comparison India exported US \$4.9b worth of gems in 1999 for an import of US \$3.7b. It is estimated that India's gem and jewelry market is benefiting from the current state of affairs with gemstones in Pakistan. The estimated share of Pakistan in the world gem and jewelry market is 0.05% but it is estimated that Pakistan could grow substantially its market share if it adopts policies conducive to enhance value added conditions and activities.

A number of constraints are preventing Pakistan from becoming an important global gems center. With respect to mining the deposits are leased to mostly unprofessional miners if licensed, but most of it is done in the form of illicit mining. The resulting lack of adequate mining infrastructure and practices (poor blasting), partially explain the current situation. On the regulatory and institutional side, the gemstone industry in Pakistan is not receiving institutional

support to develop value added activities e.g. cutting, polishing and exporting incentives as in neighboring India. The difference between the price of an uncut and cut and polished gemstone varies from 1:30 to 1:100 for cut and polished colored gemstones. If Pakistan wants to derive a meaningful contribution from its gem resources the move to cutting and polishing is of prime importance.

With respect to small-scale and artisanal coal mining, there is a wide recognition by the Government of the considerable risks as a result of increased distances and depths of mining faces, with poor support and ventilation, in combination with poor operating practices and lack of equipment. To address this situation will require the establishment and implementation of small-scale and artisanal pilot training centers to train and disseminate best practice in mining, safety and environmental aspects, tailored to the local conditions.

Mining Sector Policy Environment

The Federal Government of Pakistan regards mining as a priority sector and has recently in cooperation with the Provincial Governments issued a NMP. The policy document is comprehensive covering all of the key-aspects for the development of the mining sector, namely (i) objectives, (ii) constitutional position of minerals, (iii) establishment of a regulatory framework, (iv) sector institutional framework, (v) licensing types and conditions, (vi) environmental protection, (vii) fiscal regime, (viii) small scale mining, and (ix) social development and a number of miscellaneous matters. The document not only articulates mining policy aspects but also covers a number of legal regulatory aspects which in other mining countries are defined in the mining code and associated regulations.

Institutional Evaluation of the Legal Framework

The current legal framework of the mining sector in Pakistan is rather unique, because it consists of three generations of documents, conceived under different circumstances and contexts:

1. The 1948 Act, for the minerals and oil-gas sectors promulgated shortly after independence.
2. The National Minerals Policy, promulgated in 1995 jointly developed by the Federal Government of Pakistan in cooperation with the Provincial Governments with the objective to promote and develop the mining sector.
3. The Provincial Regulations (2002), developed at the provincial level for the practical application of the NMP.

This situation means that an old Law, promulgated probably under urgent requirements immediately after independence is still in force in spite of the new NMP (based on very different concepts in comparison to the old Law) which implies that the Minerals Policy is playing the role of a “Minerals Law”, but its contents do not have the detail and the regulatory descriptions normally included in a legal text.

In addition, the institutional content of the Provincial Regulations in relation to the definition of the agencies administering the minerals sector does not provide enough details, with only the

“Mines Committee” described in some (not all) of the Provincial regulations. In contrast, the Department of Minerals, the Licensing Division and the Exploration Promotion Division as established in the NMP are not described, and their functions, mandates, responsibilities and obligations are not defined as expected in the Regulations.

This implies that there is a substantial gap in the institutional content of the current legislation with a lack of legal underpinning for the NMP in order to ensure the proper administration and management of the sector. In addition, despite the joint NMP, there appears a lack of coordination between the federal and the provincial levels, as well as between the provinces themselves, causing divergences in the application of the legal framework and impeding the implementation of the National Minerals Policy in a homogeneous and uniform way.

Another area is the lack of clarity concerning the role of the State (Federal or Provincial) and the private sector, which generates potential conflicts of interest. The fact that the granting authorities (Provincial Governments) are also holding mining rights creates the image of the State as a “competitor” with the private companies. Although the NMP postulates the decision to privatize the Public Sector Mineral Corporations, this privatization has not yet materialized.

Finally, there is a lack of detail in the legal/fiscal framework about how to distribute and use the revenues generated by the mining sector. Whereas there is clarity which types of funds and taxes are managed by the central government and the Provincial Governments, no definition is given in relation to the uses and distribution of these funds. The legislation in other countries normally specifies the split of these funds to be used for the maintenance of the mining administration (Mining Cadastre, Mining Inspection, Geological Survey, etc.), for the local administration where the mining activity is taking place (municipalities) and for the Central and Provincial General State administration.

Mining Institutional Framework

In each of the provinces separate Departments of Mines and Minerals have been established with the mandate to grant mining licenses and leases, collect fees and royalties and monitor activities in the mineral sector. The Departments are also responsible to maintain updated master plans showing positions of all exploration licenses and leases granted, renewal assignments and surrender of mineral titles, relinquishment of acreage etc. and make this information public through regular publication of complete details in the official gazette. The Departments of Mines and Minerals are organized in three divisions for (i) Licensing (ii) Exploration Promotion and (iii) Inspectorate of Mines. Although all of the provinces have now a lead agency responsible for implementing the NMP, these agencies are not functioning in a manner that conforms to international best practice, with respect to overall institutional capability to carry out the necessary responsibilities under a modern law and policy. Their main shortcomings include:

- Weak cadastral units;
- Inadequate definition of responsibilities among different organizational units, especially with respect to environmental aspects;
- Lack of adequate funding;
- Lack of transparency in decision making and
- Difficulty to provide full and easy access to data/information.

Geological Survey of Pakistan

While only 5 different minerals were produced by Pakistan at the time of Independence, at present, nearly all 40 different minerals mined in Pakistan have been discovered and/or explored by the Geological Survey of Pakistan (GPS). Indeed GPS has served as a professional institutional pillar for developing geo-information about Pakistan and is the earth science agency mandated to develop, interpret and provide geological information on Pakistan. It is a branch under the Federal Ministry of Petroleum and Natural Resources which is charged under the NMP to: i) expedite the publication of geological, geophysical and geochemical data and maps, ii) produce 1:250,000 and 1:50,000 maps supported by reports for the whole country with a prioritization as defined by the provinces, iii) operate an open file system with now unpublished data made available to investors on charge basis, iv) undertake fast track integrated geological, geophysical and geochemical and tectonic surveys, generate and disseminate basic data on potentially prospective areas as per priorities determined by MIFA. Mineral exploration would be a minimal activity of the GSP and only in support to its regional surveys; v) execute mutually agreed collaborative projects with private sector and provincial governments as approved by MIFA, on a cost reimbursable sharing basis, vi) assist the provinces in generation of geological data .

The headquarters of the GSP have been located in Quetta (Balochistan) since colonial times. Its provincial offices are operational in Islamabad, Karachi, Lahore and Peshawar. It also has a field office at Muzaffarabad. Additionally a geo-sciences research center is located in Islamabad. It is staffed by 205 technical professionals (140 geologists, 19 geophysicists, 25 drillers and 21 chemists) and by 56 administrative and support personnel.

The headquarters and research center are well equipped and maintained. The staff of the GSP is efficient and knowledgeable in modern techniques of earth's sciences. Its output appears reasonable and proportionally related to existing activities, although perhaps it might be on the low side if considering that geological mapping so far covers only 33% of the national territory.

The facilities of the research center are particularly impressive. It was established in 1991 with assistance from JICA. It is fully equipped on the basis of most modern technologies. Its equipment is well maintained, with nearly all components fully operational. Additionally, its libraries are updated with recent publications, including subscriptions to main relevant scientific journals. The scientific and technical production of this research center is notable, exceeding comparative international levels of publications for similar research establishments. However, its facilities are also clearly underutilized, and core staff scientists are progressively moving to other higher paying jobs in the private sector.

On the other hand, despite its good capacity and facilities, the existing setup of the GSP does not fully reflect the priorities for mineral sector development in Pakistan. Additionally, its existing headquarters location does not facilitate coordination with the Federal Mining Administration, and provincial offices and agencies. It also hinders internal coordination and synergies with the research center. Moreover, its remote location has affected recruitment of professionals and is resulting in progressive turnover.

The role of GSP under the new National Mineral Policy is receiving careful examination. In line with its updated mandate GSP is focusing on executing a series of activities, which would require further institutional strengthening principally for regional geology work, research related to gemstones, provision of extension services, development/ operation of information systems, and cross-sectoral geological services. Such activities would aim at the publication of data and maps, completion of regional maps, establishment of open data-file system for private investors, development of partnerships with provinces and private investors and establishment of a national geo-data center.

Potential

Existing geological anomalies under varying stages of investigation by Geological Survey of Pakistan and the state owned Regional Development Corporations are economically interesting and comprise among others, the Duddar zinc-lead deposit, the Saindak copper-gold deposit, Punfmin iron ore deposit, the AKMIDC poly-metallic deposit and the private sector porphyry copper/gold prospects at Tethan Copper and Reko Diq. Based on the experience of other countries with similar geological endowment, it is estimated, that under reasonable assumptions these could be turned to account and generate significant growth and local economic development. Even if these occurrences represent 25% of the country's potential, the mineral sector with sufficient capital and a favorable investment climate has the capacity to contribute annual revenues and foreign exchange in the range of \$1.5-2.0 billion or 2-3 % of GDP, stimulate secondary and tertiary economic activity, promote growth and provide employment and community development in largely remote regions of the country. In addition to the above mentioned base-metal/gold potential, the Thar-lignite deposits should be mentioned. These deposits contain very large reserves of lignite, which are considered of adequate quality on the basis of existing studies. However, it is not known/established whether this deposits can be developed in a technically and economically viable way. This uncertainty is the result of the difficult mining conditions identified at Thar, including a lack of outcrops, high stripping ratio, and considerable presence of groundwater. In this context, the contracting of Rheinbraun Engineering from Germany, to execute an engineering and a bankable feasibility study is significant, because it will clarify a number of these aspects. Similarly, the involvement of a Chinese firm in another sector of this deposit is a positive step in this context, leading to an improvement in the delineation and definition of coal reserves in this block.

CHAPTER II – LEGAL AND FISCAL FRAMEWORK

Introduction

This chapter presents the findings of a preliminary review of the legal documents listed in Annex II hereto.^{1/} The purpose of the legal review is to identify the strengths and weaknesses of the legal framework for mining in Pakistan and its provinces in relation to current, generally recognized international best practices. With respect to issues that may restrain the ability of Pakistan to attract significant private investment into its minerals sector, suggestions are presented as to solutions implemented in other countries that could be considered by the Government.

The Role Of The State In The Minerals Sector

Clarity of Authority

The National Minerals Policy 1995 notes that minerals other than oil, gas and nuclear minerals and those occurring in special areas under the control of the national government (e.g., the federally administered tribal areas and the national area surrounding the capital city) are governed by the laws and regulations of the provinces in which they are located. This is based on articles 141 and 142 of the Constitution of the Islamic Republic of Pakistan, 1973 as amended and recently restored to effect (the “Constitution”), and the absence of minerals other than oil, gas and nuclear minerals from both the Federal Legislative List and the Concurrent Legislative List in Schedule 4 of the Constitution.

Thus, it appears to be clear that the Federal Government of Pakistan has exclusive authority over the development of:

- petroleum resources,
- natural gas and “mineral resources necessary for the generation of nuclear energy;” and
- all other mineral resources occurring in federally administered areas;

while the respective provincial governments of the four provinces of Pakistan have exclusive authority over the development of:

- all mineral resources occurring within their respective borders other than those resources under the exclusive control the Federal Government.

With respect to the environmental regulation of mining, it appears (based on the Federal environmental review regulation of 2000) that the Federal Environmental Protection Agency (“EPA”) has exclusive authority over the review and approval of initial environmental

^{1/} The legal materials reviewed include the mineral sector rules of the provinces of Balochistan, Punjab and Sindh implementing the National Mineral Policy 1995, but do not include any implementing rules for the North-West Frontier Province.

examinations (“IEEs”) and environmental impact assessments (“EIAs”), with input from provincial authorities through the Environmental Assessment Advisory Committee. The Federal EPA is also exclusively charged with monitoring the compliance of licensees and lessees with their approved IEEs and EIAs.

However, the NMP (at p. 11) provides that mining companies are to be required to submit to the applicable provincial or Federal licensing authority “periodic reports detailing the measures taken by them for compliance with environmental requirements.” Furthermore, the NMP contemplates a role for the provincial MIFBs (discussed below) in ensuring adequate protection of the environment; and the provincial regulations contain requirements with respect to environmental regulation in the conditions for the grant of licenses and leases, and in the obligations of the licensee or lessee. It thus appears that there is some overlap between the Federal and provincial authorities in the area of environmental regulation of mining. This can be a contentious area involving major liability and cost considerations for investors. Mining companies will be reluctant to invest in major projects where there is potentially conflicting and overlapping authority over environmental protection. Although the NMP contemplates that the provincial governments (with or without the Federal Government) may execute mineral agreements to clarify the conditions for major projects, it is essential to clarify the respective spheres of authority of the provincial and Federal agencies with respect to environmental protection requirements.

Clarity of Policy

The NMP does an excellent job of clarifying policy among the Federal and provincial governments with respect to the traditional components of mineral resource law. The authorities are to be commended for the exposition of the key aspects of the regulation of mineral resource exploration and production articulated in that document. Currently, however, the most contentious and difficult issues in the regulation of mineral exploration and production activity concern:

- a) assuring that mining contributes to the sustainable development of the regions in which it takes place, while having an impact on the natural and social environment that is acceptable;
- b) preventing the use of gem and precious metals mining to finance armed conflict and terrorism; and
- c) providing for the equitable sharing of the fiscal revenues of mining among national, provincial and local governmental units.

The NMP addresses to some extent the fiscal revenue point as between the national and provincial governments, but leaves the sharing of revenues between the provincial and local governments up to the provincial governments. This is appropriate in that the local governments are presumably legal creatures of the provinces; however, the provincial mining rules do not appear to address this issue. It is suggested, therefore, that there is a need for a coordinated Federal and provincial policy on the first two of the above three issues, and for the clarification of provincial policy as to fiscal revenue sharing with local governments.

Mitigation of Conflicts of Interest

In order for the State or province to be able to effectively promote and regulate private investment in the minerals sector, it is necessary for the sovereign to establish regulatory institutions that are independent from, and that grant no preferential treatment to, state-owned mining enterprises.

According to the NMP, Pakistan decided to privatize the public sector mineral corporations existing in 1995 and to refrain from establishing such entities in the future. Furthermore, the NMP does not contemplate that governmental departments or entities will play a role in commercial exploration and mining in the future. The provincial rules implementing the NMP appear to be consistent with this policy. Accordingly, the current policy and rules do seem to adequately mitigate the potential conflicts of interest between the governments' former role as operator and its current role as regulator of minerals activity, provided that the 1995 policy has indeed been implemented - particularly with respect to the privatization of the public sector mineral sector corporations.

The Nature Of Mineral Rights

Constitutional Basis

There is no Constitutional basis for private mineral rights in Pakistan. This is typical of common law jurisdictions. Mineral rights in Pakistan are purely creatures of provincial law. This is logical in a federal system, but investors in major projects are likely to want to satisfy themselves that the mineral rights they obtain are recognized by the federal government as property rights that cannot be taken without due process of law and prompt and adequate compensation. The NMP contemplates that such assurance could be obtained through the negotiation and execution of a mineral agreement. That may be acceptable and desirable for major investors; but it requires considerable resources on the part of the federal government and the provinces to first negotiate and then administer the mineral agreements.

Definition by, and Status in, Law

Although the mining rules of the three provinces reviewed for this paper describe the rights and obligations of mineral licenses and leases, they do not explicitly clarify the nature of those rights. The licenses are presumably personal property rights and the leases are presumably real property rights; the exact legal nature of the rights may be determined by other laws. Both are subject to some restrictions on transfer. It would be desirable to clarify the legal nature of such rights in the provincial mining laws, by specifying whether they are real or personal property, inheritable, mortgageable or pledgeable and transferable.

The Terms Of Private Access To Mineral Resources

Restricted Areas

Neither the NMP nor the mining rules of the three provinces examined as part of this review imposes excessive restrictions limiting the areas available for exploration and mining. This does not appear to be a problem under the rules for mining in Pakistan.

Availability of Information on Existing Licenses/Leases and Applications

The NMP provides, in paragraph 3.3.1(vi), that the Department of Mineral Development in each mineral rich province will be responsible for “maintenance of up-to-date master plans showing positions of all exploration licenses and leases granted, renewals, assignments and surrenders of mineral titles, relinquishment of acreage etc. and make this information public through regular publication of complete details in the official gazette.” This is a fundamental component of a private sector-led mineral development policy. However, this provision of the NMP does not go far enough. Balochistan and Sindh have specific rules on the receipt, time-stamping and acknowledgement of applications for mineral rights, in section 10 of their respective rules, but Punjab does not. All three of the provinces have a series of general rules on the maintenance of title registries that are reasonably good. However, only issued titles are recorded in such registries. None of the three provinces provides for the establishment and rigorous maintenance of a registry of applications filed for mineral titles.

An efficient, objective, and rigorously maintained registry of applications for mineral titles is perhaps the central feature of a modern legal framework for private sector mineral exploration and production activity. Rules governing how, when and by whom information is recorded in the registries of applications and titles should be set forth in the mining law and/or regulations with precision. Such provisions are found in the mining laws of the Latin American countries that have been the most successful in the world in attracting a greater share of the global capital invested in minerals exploration during the last decade: Chile, Peru, Mexico and Bolivia. The best example in Asia would be the 1997 Minerals Law of Mongolia; and among Anglophone African countries, the Mining Act, 1998, of Tanzania. The 2002 Mining Code of the Democratic Republic of the Congo (in French, but with English translation available) also makes this feature paramount.

Objective Criteria and Efficient Procedures for Licensing

In several respects, there is a lack of standardization in the procedures for granting reconnaissance licenses and exploration licenses - the key rights for initial access to geographical areas for commercial mineral exploration work by companies. This lack of standardization necessarily results in a lack of transparency in the process of granting mineral rights and could lead to excessively long periods for processing applications for reconnaissance and exploration licenses.

Reconnaissance and exploration for metallic minerals and precious stones are high risk activities for which there is a relatively small pool of global capital available (a peak amount of US\$5.2 billion in 1997, and less than \$2 billion in 2002). International investors in exploration for high

value minerals currently have investment opportunities in many countries available to them. The countries that are most successful in attracting private investment into their mineral sectors compete effectively for such investments by making it easy to obtain reconnaissance and exploration rights quickly. Pakistan's procedures are not competitive internationally - largely because of a lack of standardization in the following areas.

First, there is a lack of standardization in the identification of the boundaries of reconnaissance, exploration and mining areas. Virtually all competitive mining countries now rely on map-staking instead of claim-staking. License and lease areas are identified by their coordinates on maps, which are then located on the ground, rather than by surveying with respect to physical landmarks on the ground and then translating that information to maps. Modern mining countries rely either on an established national geodesic grid system (e.g., Peru, Bolivia, Madagascar) or standard coordinates tied to an official series of topographical maps for the country and/or province (e.g., Chile, Mexico, Democratic Republic of the Congo) based on a generally accepted projection that can be digitized.

The adoption of a standardized regime for identifying reconnaissance, exploration and mining areas on official maps greatly facilitates and expedites the process of displaying the location of existing license and lease areas and verifying the geographical location and availability of areas sought by investors. The lack of standardization in this area undoubtedly contributes to the processing time of 120 days for applications for reconnaissance and exploration licenses. In order to effectively promote private investment into their mineral resource sector, the provinces need to be able to process applications for reconnaissance licenses within one week, and exploration licenses within no more than 30 days.

Second, there is a lack of standardization in the terms of reconnaissance and exploration rights that can be granted. For example, reconnaissance licenses are generally non-exclusive, but may be exclusive. Individual exploration licenses may contain special terms set by the provincial licensing authority. This also complicates the granting process and lengthens the processing time for reconnaissance and exploration rights. The countries that are the most competitive in attracting new private investment in minerals exploration have found that such individual terms and conditions are not necessary. Furthermore, there is great diversity among the provinces as to the maximum size of reconnaissance license areas (Balochistan = 10,000 sq. km; Punjab = 5,000 sq. km; Sindh = 100 sq. km, which is inadequate for airborne geophysical survey work), and the duration of exploration licenses (Balochistan = 3 years, plus two 3-year renewals; Punjab = information not available; Sindh = 3 years, plus two 1-year renewals).

Third, although applications for reconnaissance and exploration licenses are generally processed in the order in which they are submitted, that order is not strictly adhered to in Sindh (rule 10(2) and (3)) or in Balochistan (rule 10(3)). The rules of both provinces provide that all applications filed on the same day are treated as being filed simultaneously. This is an invitation to corruption. Sindh further enables the licensing authority to make exceptions to the general rule of processing applications in the order in which they are filed. Punjab, by contrast, adheres to the general rule of processing applications in the order in which they are filed, without exception. That is the only acceptable practice for major investors.

In addition, some of the requirements for reconnaissance and exploration licenses are unrealistic. Applicants for a reconnaissance license are required to submit a detailed work program. However, the reconnaissance right is non-exclusive, is only valid for a short period of no more than twelve months, and is non-renewable. It is not realistic to expect investors to invest substantial amounts of capital on the basis of such insubstantial rights. It is similarly unrealistic to expect applicants for exploration rights to go to the expense of preparing environmental mitigation plans that they are expected to submit before they are assured of obtaining the requested exploration right.

Furthermore the description of the conditions to be accomplished by an applicant of a mineral right or the power of the licensing authorities, are often open to interpretation and imprecise. This lack of definition can cause ambiguities or arbitrary decisions in the application of the Law and is an important risk-factor for the investors. The following examples are extracted from the Balochistan Regulations:

- Article 8: *“The maximum number of mineral titles or mineral concessions ... shall not exceed two unless the licensing authority is satisfied on reasonable grounds...”*
- Article 10-d : *“The application for a mineral title or a mineral concession ...shall be accompanied by such information, which in opinion of the licensing authority, is relevant to the application”.*
- Article 27-3: *“An exploration license shall not be granted to an applicant ...unless the licensing authority is satisfied on reasonable grounds ...”*

Another consequence of the ambiguities in the legal framework is the risk to lose the license as the result of a discretionary interpretation of the legal text.

In addition, some important areas from the point of view of international best practices are missing or have not been addressed, for example:

- a) A detailed description (step by step) of the administrative procedures to be followed for a new application is not included in the legal text.
- b) A technical description of the type of coordinates and maps to be used for delimitating the licenses, as well as the restrictions in the permitted geometries
- c) Article 8.16 of the National Mining Policy establishes that *“the licensing authority may award licenses over free acreage through a process of competitive public bids or selected tenders”*, but there is no prescription or details in the text about:
 - a) In what cases and under what circumstances the licensing authorities can initiate a bidding process.
 - b) How the tenders will be invited and selected.
 - c) How the tenders will be evaluated.

Thus, the provincial rules for the processing and granting of reconnaissance and exploration licenses are neither expeditious nor objective and transparent. Substantial streamlining,

standardization and objectification of procedures in this area is necessary in order to conform to international best practice.

Relinquishment

Balochistan requires relinquishment of 50% of the license area at the time of each of the two permitted renewals of the exploration license; whereas Sindh only requires relinquishment of 50% of the license area at the time of the second renewal.^{2/} It appears that voluntary relinquishment is also encouraged through the license amendment process. The rules of the provinces also provide that reconnaissance and exploration rights continue in effect as to the areas not relinquished or transformed into another type of license or lease, which is appropriate. Relinquishment does not appear to be a problem area.

Transfers

Consistent with the NMP, the provinces do not permit transfers of reconnaissance licenses, but do permit transfers of exploration licenses after the first two years, subject to approval by the licensing authority based on a review of the qualifications of the transferee to hold the license. The restrictions on transfers do not appear to be unreasonable, on the one hand; however, ease of transferability of mining titles has been a key factor in promoting investment in the mining sector of the most successful mining countries such as Chile, Mexico and Peru, where transfers of exploration titles are subject to easier and less restrictive procedures than in the provinces of Pakistan. Among the Anglophone countries of Africa, both Tanzania and Botswana revised their mining laws in 1998 to liberalize the provisions on transfers of mineral titles consistent with evolving best international practice.

Security of Tenure

Exclusivity

Reconnaissance licenses are generally non-exclusive in all three provinces, but may be issued as exclusive rights. The rules of Punjab and Sindh appear to contemplate the issuance of overlapping exploration licenses for different minerals without the consent of the established exploration license holder. Although the drafters of the rules must have considered this to be in the best interests of their provinces, in fact, major mining companies will not invest substantial amounts of risk capital in exploration unless they are assured that no other exploration concessions can be superimposed on their license areas, regardless of the character of the minerals involved. The exclusivity of the right to explore for - and if successful, develop - all minerals that are subject to concession is necessary in order to attract capital to take the geological risk of exploring for metallic minerals.

^{2/} The applicable provisions of the Punjab rules are missing from the copy reviewed.

Term Lengths and Renewals

In general, the term lengths of reconnaissance and exploration licenses in the provinces of Pakistan are short by international standards - particularly in the Sindh. Reconnaissance licenses - non-renewable, non-exclusive rights for one year only - are not attractive. Exploration license terms are relatively short, as are renewals which, moreover, are not automatic but rather subject to technical review requirements. Large metallic mineral development projects today require more time than is available under exploration licenses, with all renewals, in the provinces of Pakistan.

Mineral Deposit Retention Licenses (“MDRL”) do not solve the problem, for several reasons. The applicant for an MDRL must have completed a full feasibility study on the deposit in order to qualify; but mining companies will not complete a feasibility study if they know that the price of the mineral in question has fallen below the price cut-off point that they used during pre-feasibility studies. The MDRL therefore is really only available in the exceptional case where the mineral commodity price drops unexpectedly after the completion of a full feasibility study. Furthermore, the term of an MDRL is short - 2 years, renewable only once for a single year. Thus, even if an applicant qualifies for and obtains an MDRL, he is still subject to the prospect of losing his rights to the deposit upon the expiration of the MDRL if the business cycle takes longer than three years to turn around. It is not unusual for mineral commodity prices to take considerably longer than three years to recover from a cyclical drop in prices. Finally, the MDRL holder is explicitly exposed to the risk that another applicant may propose to undertake development of the deposit, in which case the MDRL holder must at least match the proposal of the alternative developer. Thus the MDRL provides very little protection for an investor in exploration, and then only in rare cases.

The term lengths for mining leases - 30 years - are adequate as initial terms for large scale mining projects. However, the limitation on renewals to a single ten-year period will discourage investment by the lessee to prolong the life of the mine substantially and may result in unintended consequences such as premature closure of mines with unexhausted deposits, to the detriment of the local labor force and community.

The problem of the short terms for reconnaissance and exploration licenses, and renewals of exploration licenses and mining leases, can be addressed in mineral agreements under the rules of each of the provinces - but that is not an effective way to deal with a basic term of mineral rights. The best approaches to the term lengths and renewals - which should be considered by the provincial mining authorities in Pakistan - are:

- 1) the unified exploration and mining concession of indeterminate duration (e.g., Peru and Bolivia);
- 2) the ability to obtain a mining concession after a relatively short exploration term, without having to prove the existence of a commercial deposit (e.g., Chile, Mongolia); and
- 3) a renewable retention license with no limit on the length of validity (e.g., China).

Strength of the Right to Proceed from Exploration License to Mining Lease

The provincial rules establish a strong presumption that a mining lease will be granted to the applicant who holds an exploration license or MDRL for the geographical area and the minerals for which a mining lease is sought. However, all of them include as a criteria for the grant of a mining lease that it must be “in the best interest of the development of the mineral resources of [the province] to grant the lease.” This criterion introduces a discretionary element into the procedure for granting mining rights to an investor who has completed a successful exploration program.

Although this provision may simply reflect the political reality that exists in all legal regimes for mining - whether or not it is expressed - the effect of such a provision on investors is to increase the perception of political risk associated with developing a commercial mineral deposit in Pakistan. That perception will deter some investors altogether from considering Pakistan as an acceptable investment environment, and will increase the cost of capital to those investors who proceed with minerals exploration and mining in Pakistan.

The provincial rules do require notice to the applicant and an opportunity for the applicant to respond to an issue or cure a defect in his mining proposal before the licensing authority can refuse to grant a mining lease. However, it may be impossible for an applicant to effectively respond to a determination that the development of a particular mine is not in the best interests of the province. That determination is essentially a political one. If the licensing authority can make such a determination, then it is not a truly independent and objective body isolated from political influences. Under successful modern international best practice, the licensing authority should be adequately isolated and shielded from any political influence on its licensing decisions.

Grounds for Cancellation

The mining rules of each of the provinces provide that mineral titles can be cancelled for failure to comply with any requirement of the rules or any condition of the mineral title. The rules require notice of a violation and an opportunity for the title holder to correct his failure before the licensing authority proceeds with cancellation of the title. Nevertheless, the grounds for cancellation of mineral rights in Pakistan are too broad, and create excessive insecurity for investors.

Under international best practice, a distinction is made between two types of obligations: maintenance obligations and operating obligations. Maintenance obligations are those obligations that must be strictly complied with on a continuing basis in order to maintain the validity of the mineral right. They should be limited to recurring payment obligations and perhaps work or investment program requirements. Failure to meet those obligations on a timely basis results in loss of the mineral title. All other obligations constitute operating obligations. Failure to meet operating obligations is punishable by various types of fines and/or orders to suspend operations pending remediation of non-conforming conditions. When obligations are separately delineated in this fashion, investors can institute certain preventive measures to ensure compliance with the maintenance obligations and protect their title, while dealing with violations of operating obligations on a case by case basis without the fear of losing the underlying mineral

title. This increases the security of investors and benefits the host province by increasing the motivation of investors to bring their operations into compliance.

Cancellation Procedures

The provincial rules do contain generally satisfactory notice and cure provisions as a prerequisite for cancellation of mineral titles. However, they fail to limit the grounds for cancellation by distinguishing between maintenance obligations and operating obligations in accordance with modern international best practice.

Operating Rights And Obligations

Subject to the comments above with respect to the deficiencies in the rights of the reconnaissance license; the overly short terms for the reconnaissance and exploration licenses and renewals of the latter and of the mining lease, as well as their non-exclusivity; the lack of distinction between maintenance obligations and operating obligations; and subject to the comments below with respect to environmental obligations, the rights and obligations of mineral rights holders in Pakistan are generally consistent with international practice.

Environmental And Social Impact Mitigation

As discussed above, there are both Federal and provincial environmental protection requirements applicable to mineral exploration and mining, involving potential and probable overlap and conflict between Federal and provincial authorities. There are presumably additional implementing rules and regulations at both levels that may clarify, or at least provide more detail as to, the respective requirements and their inter-relationship. The main issues that appear from a review of the documents are the following:

- a) How are the Federal environmental authority and rules reconciled and coordinated with those of the provinces?
- b) There is a need for greater focus on consideration of the social impact of exploration and mining on local populations and communities, within the context of a policy of sustainable development.
- c) There is a need for greater specificity and sensitivity in tailoring the applicable environmental requirements to the stage of exploration and mining activity involved.
- d) There is a need for greater specificity with respect to the obligations of exploration and mining title holders to implement their approved environmental mitigation and/or management plans, including precise requirements as to environmental surety obligations.

With respect to (a), for example, reconnaissance and exploration activities appear to be regulated only at the provincial level. The rules of each of the provinces require an application for a mining lease to be accompanied by an Environmental Impact Assessment (“EIA”) in compliance with the Federal Environmental Protection Act, on the one hand; but also require the applicant to

identify the adverse effects of the proposed operations on the environment, and state the measures to be implemented in order to control or eliminate those effects. They also require the application for a mining lease to contain proposals for the prevention of pollution, the treatment and disposal of wastes, the reclamation of land and the protection of water, etc. Such requirements would appear to be duplicative of requirements that are subsumed in the EIA requirement under the Federal EPA Act. It needs to be clarified whether environmental proposals in response to the provincial mining rules are evaluated by the provincial authority in addition to the Federal EPA's review and, if so, what happens in the case of conflict between the Federal and provincial authorities.

With respect to (b), modern international best practice considers the impact of exploration and mining projects not only on the natural environment, but also on the social environment.^{3/} This important dimension of current best practice does not appear to be reflected in the environmental regulatory scheme in Pakistan.

Regarding (c), as previously noted above, the provincial mining rules require applicants for exploration licenses to submit environmental impact assessments and mitigation plans as part of their applications. It is unrealistic to expect an applicant to undertake the expenditure necessary to prepare a conscientious environmental assessment and mitigation plan prior to obtaining his exploration license. Under best international practice, the submission, review and approval of an environmental assessment and mitigation plan for exploration should be a requirement for the commencement of operations - not for the issuance of the license. Moreover, the provincial rules on environmental protection during exploration should recognize that initial exploration activities are non-intrusive or minimally intrusive and can usually be adequately addressed with standard guidelines, whereas advanced exploration activities involving extensive drilling, bulk sampling and possibly pilot plant testing will require specific assessment and mitigation measures. Thus, environmental impact assessment, mitigation and remediation should be progressive like the exploration activities that necessitate them.

Finally, as to (d) above, neither the Federal environmental regulations nor the provincial mining rules provides sufficiently specific instructions with respect to the implementation of environmental mitigation and/or management plans, and especially the need for adequate surety for the performance of environmental obligations by mineral title holders. Examples of recent comprehensive environmental regulations for mining can be found in Madagascar and the Democratic Republic of the Congo.^{4/}

^{3/} See, for example: MMSD Project, *Breaking New Ground* (Earthscan, London 2002); Weber-Fahr, M., "Treasure or Trouble? Mining in Developing Countries", *Mining and Development* (World Bank and International Finance Corporation, Washington, D.C., 2002).

^{4/} Madagascar: *Arrêté Interministériel No 12032/2000 sur la Réglementation du Secteur Minier en Matière de Protection de l'Environnement*, November 6, 2000 (available only in French) ; DRC : *Décret No 038/2003 du 26 mars 2003 portant Règlement Minier* (available only in French at www.miningcongo.cd.)

Dispute Resolution

There is considerable variation among the provinces with respect to dispute resolution. The mining rules of all of the provinces include provisions for administrative appeals of decisions of the licensing authority to the Secretary of the Department responsible for the mineral licensing function. In Balochistan and Punjab, the decision of the Secretary on such appeals is final, whereas in Sindh the Secretary's decision can be appealed to the court having jurisdiction in the matter. It is surprising that administrative decisions on appeal cannot be appealed to the courts in two of the provinces.

The mining rules of Punjab, but not of the other two provinces, provide that disputes with the Government concerning mineral titles may be submitted to arbitration before the provincial MIFB or such other body as the parties may agree to.

All three provinces authorize their Governments to enter into Mineral Agreements with private investors that may provide for dispute resolution by arbitration. In Balochistan and Punjab, but not in Sindh, such mineral agreements may provide for international arbitration. The three provinces also enable the licensing authority to include an arbitration clause in the terms of mining titles issued. Access to international arbitration for the resolution of major disputes is considered essential by most major mining investors.

Stability

Each of the provinces enables investors in mining to obtain clarification and stability of the rules and procedures applicable to their proposed investment and operations by negotiating and executing a mineral investment agreement with the provincial Government (and possibly the Federal Government.) Major mining companies will probably welcome the chance to negotiate and secure many of the terms of their rights, obligations and procedures under such agreements. For the provinces, however, it is inefficient to negotiate mineral agreements for numerous projects. The process is time-consuming, and large mining companies will usually be better equipped than the provincial governments to negotiate such agreements. Moreover, the agreements will result in different terms and conditions for different investors, which will be complicated to administer. In some cases, they provide opportunities for corruption.

Under modern international best practice, governments try to minimize the degree to which terms and conditions of mineral titles are negotiable. The preferred way to provide assurances of stability is through a non-negotiable, standard form stability agreement that guarantees to investors above a threshold amount that no adverse changes in the law or regulations will apply to their project for a term sufficient to permit recovery of the investment and profit - for example, ten or twenty years, depending on the size of the investment. Good examples are Chile and Peru.

Fiscal Regime

A typical mining operation⁵ anywhere in the world is generally subject to a wide range of taxes. Experience shows that the economics of a mining project are normally impacted primarily by three government imposts: corporate income tax; mineral royalty; and customs duty. In addition, where a country's system for turnover tax (Value Added Tax (VAT) or Goods and Services Tax (GST)) is flawed, this tax can have an adverse affect on the economic feasibility of a project.

The fiscal regime applicable to mining is defined in the NMP, which sets out, *inter alia*, a framework for a federal/provincial fiscal regime for the mining sector. Some key features of the fiscal framework include:

- 30% income tax rate for public companies listed on a stock exchange in Pakistan;
- 35% income tax rate for private or non-resident companies;
- 5% import duty on plant, machinery, and equipment that is not manufactured locally⁶;
- Mineral exports are zero rated for GST purposes; and
- Royalty rates, as follows:
 - Precious stones 10% of gross value
 - Precious metals and semi-precious stones 3% of gross value
 - Base metals 2% of gross value
 - Others 1% of gross value.

The fiscal framework set out in the NMP has been implemented only to varying degrees. Nevertheless, the NMP is indicative of the federal and provincial governments' intentions to adopt a uniform, stable fiscal regime for the minerals sector.

The publication of the NMP, and the federal/provincial consensus reflected therein, represents a notable achievement. However, Pakistan's fiscal regime is not as competitive as it could be in terms of international best practices and standards. Table 1 shows the internal rate of return (IRR) and the government's share of pre-tax project cash flow generated by a typical large-scale base metal mine in selected countries. Holding revenues and costs constant from country to country, this hypothetical project in Pakistan generates a relatively low IRR whether the 30% or the 35% income tax rate prevails.

⁵ In this report, a typical mining operation means a project which a foreign investor would typically be prepared to undertake.

⁶ As amended by the November 2001 Investment Policy.

Table 1 – Large-Scale Base Metal Mine

Country	IRR	Government Share
Chile	18.36%	16.67%
Lao PDR (Scenario 1) ⁷	17.23%	35.28%
Lao PDR (Scenario 2) ⁸	17.08%	31.92%
Papua New Guinea (PNG)	16.87%	38.55%
Mongolia	16.83%	34.52%
Canada (Ontario)	16.37%	41.68%
Pakistan (30% tax rate)	15.54%	43.31%
Indonesia	15.00%	39.45%
Pakistan (35% tax rate) ⁹	14.89%	43.31%

The reason for Pakistan’s relatively low ranking is that the corporate income tax rate, the royalty rate, and the customs duty rate are at the high end of the range of rates internationally. Table II sets out the key features of the fiscal regimes in selected countries that either are competing to attract investment to their minerals sectors or already have mature, successful minerals sectors.

Although the corporate income tax rate in Pakistan is less than the comparable rate in Mongolia and Canada, Mongolia has tax exemptions as noted in footnote 8, and Canada has a lower import duty as well as a 100% write-off for exploration, preproduction development, and fixed asset costs. The impact of PNG’s 35% corporate income tax rate is mitigated to some extent by having a royalty based on net smelter return instead of a gross royalty, and by exempting imports from customs duty.

Pakistan has relatively generous write-off rates for exploration and fixed assets, but these rates are not sufficient to compensate, relative to other countries, for the 5% customs duty and a corporate income tax rate of either 30% or 35%.

Generally speaking, Pakistan could improve the international competitiveness of its fiscal regime by reducing its corporate income tax rate, customs duty, or royalty rate.

⁷ 33.3% profit tax rate, and two year exempt period followed by 50% tax reduction for two years.

⁸ 20% profit tax rate, and no exemption or rate reduction.

⁹ A corporation controlled by a foreign investor would be subject to the 35% rate, unless the corporation’s shares were listed on a stock exchange in Pakistan.

Table II – Comparative Summary of Key Tax Provisions

Country	Income tax			Royalty	Customs
	Rate	Depreciation	Loss carry forward	Rate	Rate
China	30%	10%	5 years	0.5% - 4.0% gross	0%
Indonesia	30%	10% - 100%	8 years	Various	0%
Laos	20% ¹⁰ 33% ¹¹	16.7% 16.7%	8 years 8 years	2.5% 2.5%	0%
Mongolia	40% ¹²	5% - 10%	5 years	2.5% gross	0% - 5.0%
Pakistan	35%	50%	6 years	Various	5.0%
Peru	30%	20%	4 years	0%	0%
PNG	35%	10%	7 years	2% NSR	0%
Vietnam	25%	2% - 20%	5 years	1% - 8% gross	0%
Australia	30%	10%	Indefinite	Various	5%
Canada	40%	100%	7 years ¹³	10% net profits	0.5%

Specific Issues

In assessing the fiscal regime a number of specific fiscal issues were identified that could represent constraints to investment in Pakistan’s minerals sector.

National Mineral Policy

The fiscal framework that is described in the NMP presents some attractive provisions, but it also contains some provisions that are not consistent with international best practices, or could otherwise possibly deter investment.

Minimum corporate tax –

The NMP calls for the payment of a minimum corporate income tax at the rate of 0.5% of turnover. A minimum corporate tax fails to recognize the cyclical nature of the mining industry.

¹⁰ 20% profit tax rate, and no exemption or rate reduction.

¹¹ 33.3% profit tax rate, and two year exempt period followed by 50% tax reduction for two years.

¹² Mongolia has a three year income tax exemption followed by a 50% tax rate reduction for three years.

¹³ Losses can also be carried back to the three preceding years.

Due to fluctuations in metal prices, it is not unusual for a mining enterprise to incur losses for a period of years. During these years, no income tax would be paid. The imposition of a minimum corporate income tax during these loss years, or during periods of low profitability, penalizes a mining enterprise that is experiencing one of these common cycles.

Where a corporate minimum tax is imposed, care should be taken to ensure that such tax can be carried forward to offset regular income tax in subsequent years. Otherwise, the imposition of the corporate minimum tax results in double taxation. Ideally, there should also be provision for carrying back a corporate minimum tax to reduce regular income tax paid in previous years.

The imposition of corporate minimum tax is rare in the global context, and sets Pakistan apart from competing countries.

Loss Carry Forward –

Paragraph 9.2.3 of the NMP mentions “Loss Carry Forward” in its heading, but provides no details. It is understood that the Income Tax Ordinance, 2001 provides for a six year carry forward period. This carry forward period should be adequate for the mining sector, and falls within international norms as summarized in Table II.

Additional Profits Tax –

The NMP states that, in certain circumstances, the Government may require the investor to enter into a mining agreement containing a provision for an additional profits tax (APT). It appears that the APT would be in the nature of an excess profits tax.

One of the more serious flaws of so-called excess profits taxes is that such taxes skim off the “cream” in the good years, without providing for comparable relief in the lean years. These taxes do not recognize the cyclical nature of the industry. Further, such taxes tend to be relatively complex and subjective, and can therefore be a common source of disputes and ill will between the investor and the government.

Excess profits taxes discourage investment, and therefore few countries have such a tax.

“Enhanced Royalty” –

The NMP contemplates the payment of an “enhanced royalty” in certain circumstances. The enhanced royalty that is described in the NMP appears to be in the nature of a royalty on excess profits. Such a royalty would discourage investment, and is rare in the mining sector of other countries.

GST

Some small scale miners pay GST on their purchases of goods and services, but experience difficulty in obtaining GST refunds, evidently because the accounting for the sales of their output is deficient. The inability to obtain GST refunds can add up to 15% to the miner’s operating

costs, and thereby render some potential projects uneconomic. It is important that bookkeeping and accounting meet acceptable standards so that GST refunds can be obtained on a timely basis.

Central Excise Duty

It is understood that federal legislation provides for the imposition of a 1% excise duty on the sale of minerals. It is further understood that this legislation, as a matter of practice, is no longer enforced, because provincial royalty would replace the duty. However, the relevant federal legislation has not been repealed.

For the purpose of greater certainty, and to avoid any misunderstanding, the legislation that provides for the central excise duty should be repealed, if there is no intention to enforce the imposition of the duty.

Notional Profit

It is understood that Corporate Board of Revenue (CBR) agents assess corporate income tax on a measure of notional profit where actual taxable income cannot be readily determined. Some taxpayers complain that a notional profit is subjected to tax even where actual taxable profit can be calculated.

The practice of assessing income tax on notional profit can be subjective and unfair, and therefore should be discouraged. Taxpayers should be encouraged to maintain accounting records that satisfy acceptable standards.

Provincial Royalty

Overall, the provincial royalties examined are internationally competitive. Care should be taken, though, to ensure that the rules for these royalties are easily understood by both the government and the investor. For example, the Sindh Government imposes royalties based on “the value at the Pit’s mouth”. The related legislation does not define the meaning of the term “Pit’s mouth”, yet this term can mean different things to different people.

CHAPTER III – PUBLIC MINING INSTITUTIONS

Effective mining institutions are indispensable for the promotion and regulation of a reformed mineral sector. The main functions of the public mining institutions are: (i) the establishment of sectoral policy, goals and strategy; (ii) the definition and enforcement of norms and regulations; (iii) the administration of mining rights; and (iv) the establishment of a bank of reliable technical information. The most common problems observed in mineral sector institutions are overlapping mandates and responsibilities, conflicts of interest, and political interference in administrative and technical work. A careful assignment of functions based on a clear definition of objectives and scopes of activity contributes to a climate of confidence and transparency in the administration of sectoral policy, and optimizes the use of resources.

Since Independence, the public mining institutions of Pakistan were designed to meet the needs of a public sector driven industry. Typically, State-Owned Enterprises reserved to themselves the best prospects for future exploration, although their exploration budgets were the first to be cut in any austerity program. Exploration by the private sector has been minimal due to the unattractive legal framework.

In spite of their commitment and acute sense of professionalism, the public mining institutions operate under a number of constraints. Many regulations can not be implemented without adequate equipment, financial resources, and skills, limiting their capability to enforce the law. In order to enable the federal and provincial institutions to expand their capacity with qualified and trained staff, additional resources will be required. This will have to come through a recognition of the importance of the sector and a consequent increase in resources. One possible approach would be to establish cost-recovery principles in the operation of the provincial mining administration, associated with the granting of mining licenses and the management of the registry system, allowing them to receive a part of the surface rental fees. This system is widely used in several Latin America countries and contributes to the sustainability of public mining institutions.

Mining Directorate

In the successful mining countries, the Ministry and its units are responsible for policy; design, definition and enforcement of regulations; coordination with other ministries; supervision of the other mining sector agencies; compilation and publication of statistical data; and the promotion of mining activities and investment opportunities.

Sound policy making, regulation and administration of the mining sector requires considerable coordination with other government departments, notably Finance, Justice, Transport, Power, Labor and Environment. Special emphasis needs to be given concerning relationships and procedures with the national environmental agency. An open dialogue with the private mining sector is also important to establish consensus regarding the definition and enforcement of viable regulations.

The main public mining institutions are the Federal General Direction of Mines, the Provincial Mining Administrations and the GSP. However before discussing the specific roles and activities of these institutions it appears justified to review the legal and overall framework under

which they are operating. As mentioned before there is a substantial gap in the institutional content of the current legislation to provide the legal underpinning for the NMP to ensure the proper administration and management of the sector.

Central Mining Administration

In Pakistan the Ministry of Petroleum and Natural Resources is responsible for the administration and control of the mining sector through the Federal General Direction of Mines, which is organized into two divisions. The main functions and responsibilities of these Divisions can be summarized as follows:

- Control and statistics of exportation and importation of minerals.
- Statistics of minerals production.
- Supervision of the Geological Survey of Pakistan.
- Monitoring of the Mineral Corporations and the mining companies owned by the State (Federal or Provincial).

For the execution of these activities, the Federal General Direction of Mines is staffed with a total of 10 people. It is important to point-out that the current structure/staffing does not allow the Federal General Direction of Mines to accomplish the institutional functions listed above.

A similar situation exists with respect to the cadastral information. Each province has a registry and updated information about the situation of the licenses (applied, granted or cancelled) inside its own provincial jurisdiction, but there is no complete and comprehensive database about the licensing situation in the totality of Pakistan. As the mining cadastre information can be considered the “barometer” of the mining industry, providing the government with information:

- To monitor the performance of the mining policy.
- To design required action plans, in response to the real demands of the mining sector, and to improve the practical application of the mining policy.
- To guarantee the correct interpretation and application of the legal framework, providing applicants and investors security of tenure.
- To promote the minerals potential of Pakistan.

It is important that these functions are coordinated to ensure the correct management and promotion of the Pakistan mining sector, and do not present competition between the Federal Government and the Provinces. In fact, the activities listed above are complementary to the licensing responsibilities held by the provinces. Good coordination will be mutual beneficial to both, provincial and federal, mining administration levels.

The need for this coordination was already identified some years ago by the federal Government, when (from the Management Services Division of the Cabinet Secretariat) it was suggested in 1995 to create a “Mineral Wing” in the Ministry of Petroleum & Mineral Resources to take on this coordinating role. This recommendation has however not been implemented.

Provincial Mining Administration

Although the organization of the Provincial mining administrations is based on the NMP, the practical results of the interpretation in each province is somewhat different from the principles established at Federal level. Point 3.3. of the NMP states that the provinces organize a Development of Minerals Department, with two administrative units: the Licensing Division and the Exploration Promotion Division. Nevertheless, the provinces interpreted this in their own way. In fact, the organization in each province is slightly different compared to the others (see Table III) and consist of three divisions, with different administrative and functional contents.

Table III

Agency	Staff (aprox.)	Divisions
DG Minerals, Balochistan Province	300	- Exploration - Mines and Minerals - Licensing
DG Mines & Minerals, Punjab Province	700	- Minerals Develop. Corporation - Mining Inspection - Mines in Minerals
DG Minerals, NWFP Province	240	- Exploration and Minerals - Licensing - Inspectorate
DG Minerals, Sindh Province (* Plus an independent authority for coal matters)	150	- Exploration - Administration - Inspection
DG Minerals, Central Administration	10	- Geology and Mining - Economy and Laws

It is important to note that the organization as presented in Table III does not reflect the reality as most of the provinces lack the resources to implement the organization mandated by the NMP. However based on the number of staff/personnel assigned to each DG Minerals, it should be possible to implement the complete structure adequately through a more balanced distribution of the available human resources.

Technical and Administrative Procedures

For the purposes of the present assessment, the cadastre's procedures and the application of the legal framework in Balochistan have been considered representative (despite the differences which exist in each province).

The licensing system of Balochistan is a manual system and computers are only used for administrative purposes (mainly word processing and the editing of letters and documents), plus the storing in digital format of the co-ordinates delimitating the licenses position as a result of the use of Auto-Cad, (corner's coordinates). No other information (roads, altimetry, administrative boundaries, rivers, toponymy, etc.) is presently digitized.

The cadastre operations are correctly handled and the used methodology is consistent with the Provincial Rules. Moreover, the Balochistan cadastre procedures have several important aspects, which are consistent with best international practices, for example:

1. The rights have exclusive character, avoiding the potentially conflictive overlapping of several rights for several mineral substances on the same area.
2. The cadastral information is available in an open file, to the applicants and public in general.
3. The application forms are adequate, properly designed and with the required information correctly provided. The forms are available in English, in order to make the application easier for foreign investors.
4. There is a cadastral Registry Book which contains the relevant information (code, date of application, hour and minute, cadastre officer signature, etc.) and although some aspects can be improved (see below), the basic concept of the "Registry Book" is correctly applied. Nevertheless there is a conceptual contradiction in the registration of the hour and minute of the application, when Article 10-e-3 states "*Applications received on the same date shall be deemed to have been received simultaneously*".
5. At the time of application, immediately after registration, the applicant receives a document where the Licensing Unit certifies the date, hour and minute of the application, as well as the area and the substances applied. As in the case of the registry book, some formal aspects can be improved in this document (see below).
6. The codification system used to identify the applications is good, based on a single numeric and continuous sequence.
7. The scale of the topographic maps that are currently used are adequate (1:50.000) with a good accuracy. The coverage of these maps is almost complete for the totality of Balochistan. The maximum error detected between the maps co-ordinates and the GPS coordinates amounts to approx. 50 meters. The geodetic parameters utilized in the elaboration of the cartography were not available on the edited maps and it was not possible to evaluate this at the time of the

assessment. In addition, transformation algorithm between the maps and GPS seems to be not yet available.

As mentioned some of the procedures can be easily improved with respect to international best practices. The Registry Book can be improved:

- To include the signature of the applicant and not only the cadastre officer's signature, in order to demonstrate the conformity of the applicant concerning the information registered.
- To improve the security of the book the officer should sign off at the end of each day, in order to prevent possible violations of the application's sequence.

In line with the previous point, the document issued to certify the date, hour and minute of the application, can be improved by including the signature of the applicant and not only the cadastre officer's one, in order to avoid potential manipulations.

The Regulations do not provide maximum time-limits for the processing of licenses in the procedures (they are only mentioned in the NMP), in order to avoid unlimited procedures. In practical terms, the maximum delay in the Balochistan Province is around 2 months, which is considered reasonable.

As mentioned, there are no written rules about the type of coordinates and maps to be used for delimitating the licenses. In the same way, there are no restrictions about the allowed geometries for the applications and any morphology is accepted. This permissive situation is far from best international practice and increases the difficulties for an optimum and efficient management of the land surface devoted to the mining activity.

The minimum surface that can be applied for (1 acre, approximately half hectare) is small compared to international standards (25 Ha).

It is mandatory to build corner beacons for each license, even at the exploration phase. Due to the availability of the GPS technology, this obligation has progressively disappeared in best international practice. In a modern cadastre, the placement of corner beacons is considered a "right" of the titleholder to protect his license (in case of conflict, for instance), instead of an obligation, and preferentially restricted to mining licenses.

Although the mining cadastre of Balochistan in general operates in conformity with good international practices, its efficiency and transparency can be improved by the adoption of the modifications mentioned above.

Geological Survey of Pakistan

The Geological Survey of Pakistan is headquartered at Quetta but has offices in Islamabad, Lahore, Karachi and Peshawar and a camp office at Muzaffarabad. The GSP is organized around three main wings:

- The science wing which splits into the basic sciences and the applied sciences divisions;
- The main research facility -the national Geosciences Research Complex – located at Islamabad, which comprises the Geosciences Laboratory (GeoLab) and the Geodata Centre of Pakistan (GDCP) even know this entity is supposed to be autonomous under the NMP. In future the research complex will also house the Regional Geoscience Research & Training Centre (RGRTC).
- The services wing subdivide into the technical services and the administrative services

The divisions are in turn made up of branches, sections, groups and units within which project teams operate based on scientific discipline, geographical focus or the market demand.

Considerations are being given to relocate the headquarters, and to refocus the activities of the provincial offices, in order to reflect the specific conditions of the geological issues of each province, with emphasis on: a) engineering, seismic and hazards geology for Quetta; b) coal and urban geology for Karachi; c) sedimentary and environmental geology for Lahore; and d) structural igneous and metamorphic geology for Peshawar. Such considerations include activities for mineral development, such as geological mapping, geo-chemical and geophysical exploration and drilling, up to the preparation of pre-feasibility studies. The mentioned activities would involve about a 20 percent increase of staff, and constitute a virtual extension of the work conducted by GSP in recent years, including detailed exploration work.

These considerations may be logical from technical and scientific perspectives, but are not focused on the main existing operational and institutional issues and priorities. In particular, the creation of more specialized provincial agencies does not address the coordination issues between the provincial administration (responsible for the licensing) and the Federal Administration. The current main priority of the GSP and its main contribution for mineral sector development should be the completion of basic geological coverage. However, there are no explicit rules to determine mapping priorities, and to harmonize the federal plans on mineral sector requirements and priorities with the processing activities of the provincial administrations. Additionally, there are no legal provisions for managing applications of new licenses in areas where the GSP conducts promotional research programs.

The GS is also an important mining investment promotional tool. Its main promotional responsibilities are the provision of geological information to potential investors; the systematic preparation of analyses and studies of particular relevance to the planning of exploration programs; and the dissemination of information and data in international and national technical fora and publications.

To the mining companies, the knowledge of a country's geology, mineral resources and mining related environmental baseline conditions represents an indispensable tool for the definition of exploration programs and an important factor for the sound development of the sector. Geological information should be considered as part of the economic infrastructure of a country, as it plays an important role in support of decision-making regarding the management of mineral resources. The production and publication of this information is a service offered by the Geological Survey to the investors as well as the public.

From a mining point of view, the main components of a basic geological infrastructure are :

(i) **Geological maps** : These maps present geological information - such as rock types distribution and relationships - and are a basic tool for the planning and development of such activities as mining, water resources management, location of civil works (e.g. roads, dams and tunnels), land use management, preservation of the environment, prevention of natural disasters and others. The objective is usually to cover the whole territory of a country with maps at different scales and different degrees of precision, and according to established priorities or to a grid system. It is thus a long term activity¹⁴ which covers large areas of land.

(ii) **Thematic mapping and mineral resources assessment** : These maps gather resource assessment information which has been processed and published. Their objective is to produce an estimation and evaluation of minerals in the ground, both discovered and undiscovered - based on genetic or typologic models. A common factor is the regional character of these maps and studies which do not include any detailed evaluation of specific deposits¹⁵. Computerized methodologies and mathematical modeling to carry out these tasks are in constant development. Airborne geophysical coverage - fundamentally magnetometry and radiometry - of mining potential regions has proven to be an extremely useful instrument, particularly in areas where most of the bedrock is covered by soil or vegetation, or where access is limited. The integration of airborne geophysical and other remote sensing data (satellite imagery, Synthetic Aperture Radar and others), accompanied by a brief field checking, provide a powerful tool to quickly select favorable ore-bearing areas for further work.

(iii) **Environmental base line information**. As discussed below, the environmental management of a given area requires the availability of a large amount of information regarding natural, social and infrastructure conditions such as the natural geochemical background of soils and waters, geomorphology, geology, distribution and types of mineral deposits, climate, hydrology, flora, fauna, population, human activities, socio-economic conditions and so on. Regional base line environmental studies aim at providing integrated background data to serve for the design or updating of policies and regulations, and of sectoral or cross-sectoral environmental management plans, the evaluation and monitoring of past or existing contamination, the background to environmental impact assessments, land, water and natural resources use management, infrastructure development planning, etc. An important product consists also in the rational mapping of environmental sensitivity areas where industrial activities might have to be more strictly controlled or

¹⁴ A full national coverage of most countries with a specific generation of geological maps requires approximately from 10 to 20 years, depending of the chosen scale. Then, updating, less comprehensive programs need to be carried out in order to actualize the information with respect to improve knowledge or scientific progress.

¹⁵ There are different types of thematic maps, from simple thematic map series, covering descriptive information such as infrastructure, distribution of metal deposits and related geology or structural data, regional airborne geophysics and geochemistry; to more advanced investigations and data processing resulting in a resource assessment study on a given specific geographical region, a metallogenic province, a particular type of mineralization or a mining district.

even excluded. Basic products include raw and processed data banks, geographically integrated information (GIS), maps and reports; and

(iv) **Mining Information System:** The MIS is a computer based information network which includes series of data banks. The system aims at compiling dispersed data under compatible file formats which can be read by all users and/or shared within different types of application, facilitating the access to this information through simple and user friendly software and hardware. Simplicity and unity are the key concepts to the development of a successful information system. The information network is initially developed at a pilot scale with a limited number of simple data banks, under the coordination of one responsible government agency (usually the Ministry of Mines or the Geological survey). The network is later progressively extended to other entities (universities, other governmental agencies, NGOs, etc.) and more complex data banks are integrated to the system, typically generated under the other components of the geological infrastructure. To simplify the setting up and the maintenance of the system, well established commercial or widely used applications should be selected to develop the data banks, and no unnecessary sophisticated hardware should be selected¹⁶.

Given the increased interest/attention to develop the mineral sector the geological information available at the GSP is quite insufficient for mineral investors. Limited areas are covered with geological, geophysical, and geochemical maps under the scale of 1/50,000. Information on mineral deposits is quite limited and does not allow for the proper evaluation of the mineral potential of the country.

International Practice. In countries with successful mining industries, the activities of geological survey agencies do not include detailed exploration tasks. These agencies are restricted to the generation of infrastructure geological information and to avoid overlapping with the exploration and operational activities of the private mining sector. In Pakistan, the divergence between the traditional activities of the GSP and best international practice reflects a lack of institutional definition, in the regulatory framework, for the obligations and mandates of the GSP and Mineral Public Institutions.

Priorities for the GSP. Main areas of priority for the GSP, reflecting the geological conditions of Pakistan and its geological infrastructure:

- complete the regional geological cartography at 1:50.000 scale.
- complement the cartographic data with regional geo-chemical, geophysical, remote sensing and metallogenic data.
- computerize the available geological information, and establishment of systematic use of GIS for data integration, interpretation, publication and dissemination.
- generate geo-seismic information, and conduct seismic–tectonic zoning interpretations for hazards/risk planning.

¹⁶ Considering today's available technology, personal computers systems are widely recommended.

Adequacy of the Institutional Structure

The NMP addresses the institutional structure for the promotion of mining investment and the regulation of mineral resource exploration and development activities at both the Federal level and the Provincial level. At the Federal level, the NMP provides for the creation of a new “political consultative forum” to coordinate the promotion of desirable private investment in the mineral resource sector, and addresses the roles of two Federal technical agencies in supporting investment promotion activities for the sector.

The Mineral Investment Facilitation Board (“MIFB”), consisting of the Prime Minister, the Chief Ministers of each of the four provinces, the chief government officer of the federally administered territories, and the chief Federal officers for finance, investment and planning, would appear to be an appropriate vehicle for the coordination of Federal and provincial efforts to promote desirable investment in the mineral resource sector. The two Federal agencies that play key roles in the support of mineral sector investment promotion policy are the GSP and the Geo-Data Center of Pakistan (“GDGP”). It is appropriate that the functions of these two technical agencies be centralized, for reasons of economy and consistency of the nationwide geological data base.

At the provincial level, the NMP provides for the establishment of an advisory body in each province, the Mineral Investment Facilitation Authority (“MIFA”), consisting primarily of representatives from all of the concerned provincial departments. This is a good concept, subject to how effectively the MIFAs are performing their advisory functions without interfering with the expeditious licensing and regulation of mineral exploration and production operations.

However there are no explicit institutional rules to harmonize the provincial priorities with the federal plans and moreover the provinces mining administration are (in contradiction to the NMP guidelines) competing with the private mining sector in two different ways:

- Developing detailed exploration plans, in the same way as envisaged for the GSP.
- Participating in minerals activities through the Mineral Development Corporations.

Both situations generate conflicts of interest and present the image of the State (Provincial or Federal) as a “competitor” with the private companies. This institutional positioning is provided for in the NMP, which in article 3.3. states that the provincial administration will “*carry out regional investigations and exploration, necessary for promotion of mineral prospects and for preparation of projects portfolios*”. Undoubtedly, the concept of “regional” (in the international sense) has been broadly applied. It is right that in practical terms the State participation is small (for instance, 5% in Balochistan, according to the compiled information), but the risk for higher percentages exists and there are no prescribed limitations in the legal framework.

The NMP further provides that the regulation of commercial mineral exploration and production activity is to be carried out within each mineral rich province^{17/} by a provincial Department of Mineral Resource Development consisting of a Licensing Division and an Exploration Promotion Division.

The Licensing Division, as contemplated by the NMP, seems to combine functions that other successful mining countries would generally separate between a pure licensing division, on the one hand, and a mines department including an inspectorate of mines, on the other hand. In accordance with international best practice,^{18/} the licensing division would be concerned exclusively with the maintenance of title registries and cadastral maps, and the processing of applications for mineral rights and renewals, relinquishments, transfers (including mortgages) and cancellations thereof.

The mines division would include a bureau responsible for collecting, organizing and utilizing the reports submitted by licensees and lessees, and providing ongoing research and information as to developments in exploration and mining technology and practices, as well as mineral commodity markets. The mines division would also include the inspectorate of mines - a key function that is not mentioned in the NMP, but appears to be combined with the licensing authority.

It is generally acknowledged that an environmental permitting unit is an essential component of an effective institutional framework for mineral resource regulation in the current environment. As noted above, the Federal government has retained the lead role in environmental review and monitoring of mining activities, but the provinces also play a role in ensuring the protection of the environment impacted by exploration and mining. In addition to clarifying the scope of authority of the respective Federal and provincial authorities with respect to environmental regulation of mining, provision should be made for an environmental permitting and monitoring coordination unit within the provincial Departments of Mineral Resource Development.

Capacity Building Requirements

The Public Mining Institutions lack the technical capacity, managerial skills, and material support for the implementation of the National Minerals Policy in order to improve the development of the mining sector. It is necessary to create, over a period of 3-5 years, the organizational capacity and trained manpower which will allow the institutions to fulfill their functions as regulatory bodies, supervisors and promoters of private investment.

A first step to achieve this objective is a review of the organizational structure at the National and Provincial level. An institutional audit would be required in order to design the right

^{17/} The use of the term “mineral rich province” in the NMP (section 3.3.1, p. 3) suggests that a province that does not consider itself to be mineral rich may regulate the modest level of mining activity within that province through a different institutional framework.

^{18/} For a review of best international practice in mining regulation, see, for example: Naito, Remy and Williams, *Review of Legal and Fiscal Frameworks for Exploration and Mining* (London; Mining Journal Books Ltd, 2001).

organizational structure, define personnel, training and equipment needs, establish and implement a program of professional career development and staff training.

Training programs would be designed for the technical and professional staff, such as geologists, mining engineers, mining inspectors, management of mining titles, taking into consideration the new mandates. Specialized courses for training in areas such as environmental management, organizational and technical aspects of small-scale and artisanal mining and short term computer and foreign language courses would also be required. At the level of senior management staff, training on policies, institutional and legal aspects related to the management of the mining sector and on aspects of investment promotion and trade at the international level should be made available, including the possibility for senior personnel to participate in study tours and attend international seminars and workshops

A short-term priority would be to strengthen the capacity of the Mining Safety and Inspection staff at the provincial level in order to enable them to carry out priority working programs, to start activities of field inspection and education to enforce mining law and regulations, and to increase mining safety and reduce negative impacts on environment, especially in areas of small-scale mining.

Another priority would be to create a Mining Environmental Unit to regulate and monitor the environmental performance of the mining sector in coordination with the Environmental Protection Agency. This unit would be an essential technical interface between the mining industry and the national environmental authorities. Its main tasks would include development of sector specific environmental regulations and standards, the establishment of adequate procedures and guidelines, training of sector specialists, and monitoring of mining activities. The dissemination of information for public consumption would also be part of its mandate.

With respect to the licensing and registration system (Cadastre), the following needs are urgent: (i) simplification of the legal procedures of licensing to increase transparency and security of tenure, (ii) improvement of the standardization of procedures of mining licensing at the Provincial offices; and (iii) computerization of the system and procedures, to make data on available areas easily accessible for investors.

With regards to geoscientific information, there is a need to make available to potential investors, both domestic or foreign, the basic geological data and other relevant information necessary for investment decision making through the following activities: (i) acquisition and compilation of data so that it can be made freely accessible to the public (namely, maps and reports); (ii) improvement of the data bank currently being set up; and (iii) training of staff in the maintenance of an updated geological data bank.

Another priority is the completion of the geological coverage of the country, which will take into account the necessity to undertake field work to check old geological information and to reduce discrepancies and omissions in published maps.

A preliminary outlay of a possible technical assistance program to address the most urgent needs of the public mining institutions, including geological data preparation and analysis is presented below.

Listing of Priority Requirements

Component/Activity

- Reform of the Regulatory Framework
- Capacity Building of Mining Institutions
- Mining Cadastre
- Geological Information (Priority 1)
- Normalization of Small-Scale Mining (pilot projects)
- Environmental Management System
- Others
- Geological Information (Priority 2)

CHAPTER IV - ENVIRONMENTAL ISSUES

Environmental Concerns in Mining

Environmental considerations are obligatory elements in mining ventures and those countries with competent environmental management have an advantage in the attraction of new investment. Progress is being driven largely by the major international mining companies whose actions are under the scrutiny of NGOs and larger civil society public, and who cannot afford to risk their reputation. They need clear, consistent and realistic environmental policies, reflected in workable legislation. The absence of clear environmental policies will therefore be a disincentive to mining investments, while long administrative details and uncertainties are costly and function as hindrances to foreign investment.

The introduction of effective environmental management in the mining sector requires the availability of information regarding natural, social and infrastructure conditions. This baseline data constitutes the base against which environmental quality objectives should be set, future environmental standards can be developed and effective monitoring carried out on new projects. Regional baseline environmental studies aim at providing integrated background data to serve for the design or updating of policies and regulations, the formulation of sector or cross-sector environmental management plans, the evaluation and monitoring of past or existing contamination, the background to environmental impact assessments, land, water and natural resources use management, infrastructure development planning, etc.

The Environmental Protection Agency (EPA) of Pakistan is responsible for overall environmental policy, law, regulations and management at the Federal Level. During the 1990s, EPA received considerable support and assistance from UNDP and the World Bank. During 1998, most of EPA's responsibilities were delegated to provincial levels in line with ongoing decentralization policies. Currently, all provinces operate fairly independently in regards of environmental controls and management. However, the budgets provided for environmental matters are inadequate. The consequence is an acute shortage of environmental professional staff at the Federal level, and in provinces.

Environmental control and management activities have focused principally on industry, sewage and roads. A major emphasis has not yet been placed on mining activities reflecting the scant development of the mineral sector. The main concerns of EPA on mining are so far related to coal, mercury emissions from coal burning, fluorite, asbestos and quarry dust near major cities.

Environmental planning and management should be assisted by:

- **Sector Environmental Assessments (SEA)**, overall studies on the environmental effects of previous and present mining. SEAs are effective regional and sector planning instruments and serve two main purposes: establishing basic knowledge; providing an overall view of the environmental issues in the sector; and setting priorities. For example, which mining areas should be given most attention and which environmental problems are critical. The setting of priorities should be based on urgency (risks to human health, etc.), feasibility (including potential effectiveness of measures), and costs;

- **Sector Social Assessments:** it may often be useful to carry out a special sectoral social assessment in order to achieve a better understanding of the social and cultural contexts of mining activities in a given district, to determine its social impacts, and to develop action plans that enhance benefits and reduce adverse effects on the population;
- **Environmental Impact Assessments (EIA),** legal instruments for introducing environmental planning and control into company management at the feasibility stage of mining ventures. EIAs for environmental planning and control of new projects are already mandatory in Pakistan, but not yet adequately regulated, as the country does not have a viable scheme for making effective their use in mining projects. Immediate measures to partly remedy this situation should include assistance for the elaboration of EIA instructions and training of personnel.
- **Environmental Audits (EA),** used for evaluations of on-going operations, either as a legal requirement and controlled by the authorities, or as a voluntary management tool within the companies. The evaluation of the extent and character of environmental liabilities from old operations, so-called "pollution stocks", is done through the execution of EAs. These are used to calculate remediation costs and assign responsibilities and priorities. They are preceded or complemented by SEAs to set overall priorities across sites.
- **Environmental Management Program:** As an instrument for the mitigation of ongoing operations, some Latin-American are introducing Management Programs which requires mining companies to make environmental audits of their operations, to propose plans for successive improvements to meet regulatory standards within the legally required timetable and, after approval of the plan, to carry it out and report results regularly. This scheme has promise and could serve as a model for other countries

The anticipated development of the mineral sector will require a pragmatically efficient setup for administration, management, monitoring and enforcement on environmental matters. A recommended best practice approach from other mining countries should consist in: i) the establishment of an environmental unit and adequate capacity, within the Ministry of Petroleum and Natural Resources (MPNR), in order to address environmental matters and issues in close coordination with EPA and the respective provincial environmental agencies; and ii) the development of private consulting and contracting capacity to prepare environmental assessments and studies, and to execute environmental audits.

The environmental unit should be responsible for the clearance of: a) Environmental Impact Assessments (EIA) for new operations; b) Programs for Environmental Compliance for existing operations; and c) Closure Plans. It should also be responsible for: i) certifying Environmental Audits, to ensure control, monitoring and enforcement for compliance of environmental activities and performance with existing law and regulations, as agreed by mining operators and environmental authorities; ii) proposing law, regulations and procedures as well as norms and standards to control and minimize adverse environmental impacts resulting from mining

activities; iii) providing official recognition to qualified public or private service suppliers to prepare EIAs and Audits; iv) developing and operating an environmental information system for the mineral sector; and v) developing environmental protection strategies and procedures in close coordination and harmony with civil society.

Safety and Health

In the field of occupational health and safety, Pakistan needs updating of legislation, institutional strengthening, and the education and training of personnel. Although the existing regulations contain basic principles for open cast or underground mining operation, they need to be adjusted to address, among others, the following aspects: (i) prevention, protection, safety, security and health in the mines and action plans for emergency situations; (ii) transportation, employment and storage of explosives and detonators; (iii) specific measures to be applied in abandoned mines or mines to be closed; (iv) obligation and frequency of medical examinations for mineworkers; and (v) adequate protection for people living in the areas surrounding operating mines.

CHAPTER V - SMALL-SCALE AND ARTISANAL MINING

Artisanal mining is often carried out without any rights to minerals or land by small groups or loose associations of individuals. The major part of this informal mining is carried out beyond the power of the authorities where there is neither environmental control nor any supervision of occupational health and safety.

The main factors which create difficulties to control or to reduce negative environmental effects in small-scale mining operations are: (i) mining projects are generally located in areas scattered over a large region, frequently in remote areas where infrastructure is virtually non-existent; (ii) initial investment is normally insufficient and does not allow for the implementation of the best technical solutions to reduce damage to the environment; (iii) the legal situation of many undertakings is of an informal nature; and (iv) insufficient technical knowledge and lack of support and technical assistance.

Besides the environmental disturbances noted above, small-scale and artisanal mining generate other problems related to health, safety and disturbances of the natural ecosystems, such as:

- Unprotected and unreclaimed trenches and/or galleries after mining has ceased, causing safety problems to the miners themselves as well as to the local people in general and animals;
- Uncontrolled use of reagents used to recover gold, causing serious problems to health and the environment;
- Use of inadequate methods for crushing and milling the extracted material, as well as lack of any system of protection, causing health problems particularly those related to exposure and absorption of dust;
- Use of contaminated water, lack of sanitary and hygiene facilities, increasing the potential of transmission of certain diseases; and
- Development of mining activity without any kind of working plan to protect the vegetation and natural fauna and to prevent contamination and pollution of soils and surface and underground waters.

Institutional Support to Small-Scale and Artisanal Mining

The responsibility for planning, organizing, supporting and supervising small-scale mining, and enforcing mining safety, as well as ensuring adequate environmental preservation and protection for this activity, is the mandate of the Provincial Mining Administrations.

Recognizing the increasing role of artisanal mining as a source of employment and revenue for the rural population, Government introduced special provisions in the mining legislation in order to legalize such activities. The objective is to incorporate it into the formal economy in a organized, and sustainable way. The National Mineral Policy also defines policies for small-scale mining.

In order to guide Government action, a first step would be to carry out a baseline survey of the sector. The aim would be to obtain quantitative information on production and productivity of artisanal and small-scale mining, so that proper action could be designed. The survey would cover economic, social, organizational and technical aspects, market, environment, health and safety, and institutional aspects.

Pilot programs would then be prepared to improve knowledge of mining techniques and simple processing of minerals, improve environmental behavior, disseminate information related to equipment and demonstrate alternative technologies. The major objective would be to increase recoveries and reduce the environmental impact. For this purpose it would be necessary to strengthen small miners associations and to mobilize non-governmental organizations and the communities affected by mining. This would require, among others: (i) the organization of seminars at the regional or national level with the participation of affected groups, local leaders, and representatives of miners; (ii) regional short term courses for miners and members of the regional associations with a view of increasing knowledge about legal, organizational and environmental aspects, including the preparation of training handbooks and a practical code of a simple terminology to help the miners comply with legal requirements; and (iii) the training of members of the community in participatory approaches and environmental awareness.

Gemstone Development Options

The problems of the gemstones industry in Pakistan could be divided into regulatory and institutional issues; mining, cutting, polishing issues; and marketing issues.

It is important to recognize the current reality of small scale mining of gem deposits in Pakistan and provide for simple, easy and non costly ways for providing titles to illegal miners. Nominal fees and simple procedures will reduce the need for illegal mining. Rendering the “cost” of illegal mining superior to legal mining is the way forward. It is better for the authorities to receive nominal fees, but know the production figures and organize the upstream added value activities of gems mining than fixing unrealistic and non attainable taxes.

The geological survey of Pakistan can play an important role for the development of the gem industry by identifying prospecting areas of gemstones formation using the most up to date techniques. The delineation of new anomalies could form the basis for private companies to intervene in gem mining in Pakistan. The GSP can also help by generating more data around the “undocumented” but mined areas by illegal miners to help provide a good basis for further reserve increase for the small scale miners. The GSP can quickly add value to the mineral industry in Pakistan by investigating the gem bearing northern areas of the country.

Improve mining techniques and technologies. Current unprofessional mining is costly both to the illegal miners and to the government. The illegal and/or small scale miners are losing great value by using inadequate blasting techniques. Health and safety as well as environmental issues are ill taken into consideration. Provincial authorities can induce and facilitate a voluntary form of organization of artisanal miners through which specialized public agencies could act in order to develop a mining culture and share knowledge aimed at increasing productivity, mineral recovery while improving health, safety and environmental compliance.

Incentives to facilitate the creation and development of modern cutting/polishing units through fiscal measures and/or as part of a recognized cottage industry could be considered. Marketing campaigns and participation to fairs/conferences with the purpose to introduce and promote Pakistani gems and jewelry export should be promoted by both provincial and federal authorities with an aim to encourage its export. Market information, trade and tariff regulations, import duties in countries and available concessions information should be provided. Sponsorship of study teams and foreign markets explorations facilities could be created, smoothing export deals, facilitating contacts between foreign buyers and local exporters and increasing the skills base by providing appropriate gemstone artisan related education are some of the requirements to success.

CHAPTER VI - SUMMARY OF KEY RECOMMENDATIONS AND NEXT STEPS

Pakistan has favorable geology for exploration and mining activities, but there is little mineral production in the country, although exploration activities have increased since the introduction of the National Mineral Policy in 1995. Despite its potential, the contribution of mining to the economy is still minimal. Its formal contribution is less than 0.4% of the Gross Domestic Product (GDP) at present but based on the country's potential, the mineral sector with sufficient capital and a favorable investment climate has the capacity to contribute annual revenues and foreign exchange in the range of \$1.5-2.0 billion or 2-3 % of GDP, stimulate secondary and tertiary economic activity, promote growth and provide employment and community development in largely remote regions of the country.

The main findings of the joint sector review undertaken by the Bank and the Ministry of Petroleum and National Resources are the following:

- While the regulatory framework's attractiveness to private investors has improved since the introduction of the National Mineral Policy in 1995, the overall regulatory framework requires further improvements to enhance its coherence to adequately meet the needs of large mining development projects. In particular, there is a need to review and strengthen the legal, fiscal and environmental aspects of the regulatory framework.
- Public Mining Institutions face a number of constraints and require capacity building to execute their mandates. However, capacity building for Public Mining Institutions has to be integrated in a broader framework. There is a need for better coordination among government branches – both at the Federal and Provincial level, through joint initiatives like shared information systems.
- There is a need to coordinate the actions of the Ministry of Petroleum and Natural Resources and the Environmental Protection Agency, through a clear definition of the respective mandates and competence of the two ministries in the enforcement and monitoring of the specific regulations for mining and the environment.
- Small-Scale and Artisanal Mining in Pakistan have the potential to provide rural employment but can also produce very serious environment impact and potential conflicts with land users. More emphasis should be given to the problems and challenges of small-scale mining and the environment, where the dissemination of best practices could be particularly useful.
- Lack of infrastructure remains a major constraint to mining development at all levels : roads, railroads, ports, airports, telecommunications, etc. There is a need to take into consideration potential mining developments on Governmental infrastructure planning.

As a first step to develop the sector, the Government has agreed to convene a policy workshop with the sector's stakeholders (Government, both Federal and Provincial, private enterprises, Universities, Civil Society, etc.) to discuss the findings of this Sector Note and to define a strategic action program for consideration by the Government and the Bank.

The objectives of the workshop are to sensitize and educate key stakeholders regarding Pakistan's mineral potential and attractiveness; (ii) Obtain the views of the different stakeholders regarding government policies and objectives for the sector and the status of their implementation; and (iii) discuss the proposed strategy to implement the policies and achieve the objectives, and mobilize support in this regard.

COMPARISON BETWEEN THE PAKISTAN SITUATION AND OTHERS DECENTRALIZED COUNTRIES

The Argentina Case

The recent evolution of the mining investments in Argentina may be considered as one of the more spectaculars in the modern history of the Mining industry. The similarities between the current situation of Pakistan and the Argentina situation at the beginning of the 90's, makes interesting to compare both countries.

Argentina as Pakistan is a Federal Republic, integrated by 23 provinces. Each one of these provinces has its own Constitution and Legislation, including the Mining Law and the related Regulations. The Federal Constitution gives to the provinces the property of the mineral resources and the right to grant mineral licenses, as well as to establish the provincial taxes related to the mining activity. In this situation, the cadastral procedures and organization of each province are different, as well as the taxation regime, generating an unattractive atmosphere for the investments in the mining sector, in spite of its very high potential for minerals.

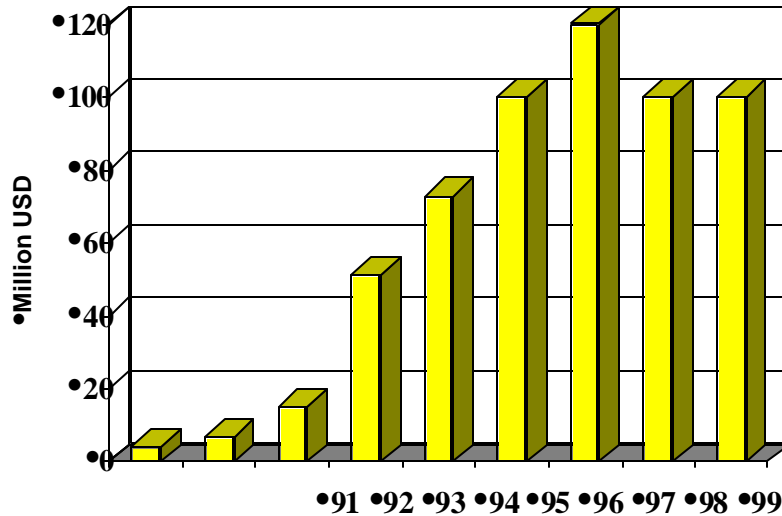
Argentina as Pakistan has a very favorable geological situation, especially in the western Andean zone, close of the collision and subduction of the Pacific plate under the South America plate. The high metallogenic potential of this geotectonic situation is very well known in comparison to other metalliferous districts of the world, and principally in comparison to the neighbor countries as Chile, Bolivia and Peru, which have important mining industries.

Between the 60's and 80's this potential of Argentina was confirmed by the localization of numerous exploration targets along the Andean Cordillera close the Chilean border, but these targets never were developed, because of political conflicts between the provincial and the Central governments about the minerals resources, the application of the legal rules for the mining sector, the taxation and the distribution of the revenues. These political conflicts avoided the promotion of the sector and the development of a national mining policy. In 1993, the provinces and the central government succeeded to achieve an agreement to develop jointly the national mining policy. The practical results of this agreement were immediate, with a dramatic increase of the investments from \$5 million in 1992 to more than \$100 million in 1994 (see Figure I). This agreement (called "Federal Pact for the Mining Sector") was conceived in the framework of an institutional reform of the mining sector supported by the World Bank and based on the following principles:

- Unification of the cadastre procedures, including the acceptance of a central coordination.
- Unification of the taxation regime, including the tax stability.
- The Argentina's administration succeeded to maintain the same level of investments during the following years (see the Figure I) as well as to consolidate these investments

in operative mining projects. Today, several “world class” deposits are being exploited in Argentina.

Figure I



The Indonesia Case

From the practical and conceptual points of view, the recent evolution of the Indonesian mining sector can be considered as opposite to the Argentina case. The computerized licensing system currently used in Indonesia was developed and installed in 1997. It was excellent and well adapted to the mining administration needs at that time. The procedures for application, issuing and granting the licenses were fast and efficient, and no disputes or conflicts were generated as a result of any system deficiency. One certificate of application (signed by the applicant and the licensing official) was issued at the time of the application. The usual delay between application and the authorization to start fieldwork is 5 days, which is very short in relation to the average at worldwide scale. The Indonesian system was then considered the most efficient system in all Asia and it was able to attract a high level of investments to the mining sector.

In 2001, the decentralization (to the provincial and local levels) started and in spite of the excellent computerized cadastre basis, the current Indonesian licensing system has currently serious problems. The more important ones are not direct consequence of the decentralization in the licensing procedures, but are closely related to how this decentralization has been achieved. The more important of these problems are the following:

There is a significant lack of coordination among the decentralized licensing offices. The procedures that are being applied are not homogeneous, changing from one region to another. No representative from the central administration is visiting the provincial offices to verify and to coordinate the correct application of the legal framework.

The codification system used to identify each application and each license is different from one office to another, and also with respect to the codes used before decentralization. This makes impossible the simultaneous and consistent computerized processing of the cadastral data of all the country.

The cadastral information is not being properly interchanged between the local and central administration. This situation makes more difficult to provide up to date overviews of the mining cadastral situation over all of Indonesia in order to generate the adequate statistics and to program the required mining policy or the development of the needed actions.

The security level of the cadastral information is very low, with high potential for unauthorized alteration of license information. This insecurity is affecting both, the paper files (due to the lack of signed registry books and the present methodology for filing and coding), and also the computer files, because basic security rule (different level data access by password, back-up routines, etc.) is still missing.

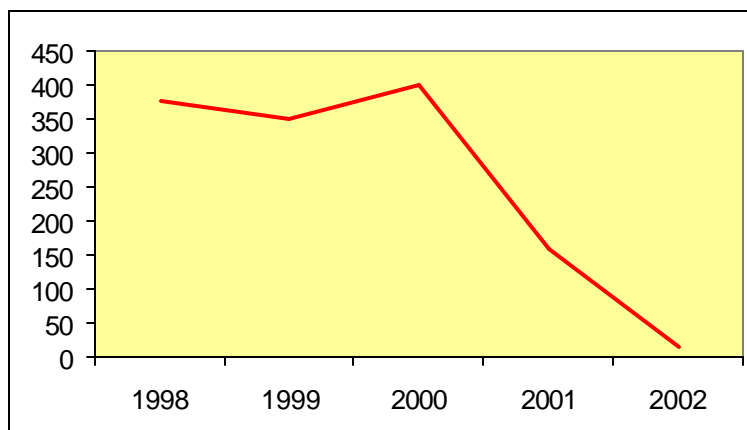
The combination of the circumstances mentioned above means (in practical terms) a high potential risk for the security of tenure for the mining titles. Overlaps granted licenses can occur and the principle of “first come, first served” may be violated. This increase of the risks is clearly indicated by the negative evolution of the mining cadastre, suggesting the loss of confidence of mining investors.

Table I

New Applications	1998	1999	2000	2001	2002
New Applications for Mining Licenses	328	326	394	161	13
New Applications for Contracts of works	50	25	6	0	0
Total New Applications	378	351	400	161	13

The Table I shows the evolution of the number of new application, and Figure II plots this evolution according to this data. During the first year of the decentralization (2001), the number of new application was less than a half respect the previous year, and during the second year, the new applications are practically negligible. It is especially relevant that there were no applications to the “Contracts of Work” reserved for big investments. These data does confirm that after the decentralization Indonesia is being perceived as too risky for exploration investments.

Figure II



Conclusions

First, the negative evolution of the Indonesian cadastre cannot be attributed to the decentralization by itself but to how this decentralization has been achieved. It is obvious that the crucial aspect in both cases (to stabilize the system as in Argentina or to destabilize it in Indonesia) is the existence of an efficient central coordination.

The presence of a central coordination unit does not add by itself any special attribute or functionality to the mining rights management system. Nevertheless, its existence, as “added value”, implies the guarantee about the homogeneity, the stability and the transparency. The direct consequences of these guaranties are to avoid the divergences that can affect the granting conditions (first of all, the “first come first served” principle), the security of tenure of the titles and the stability against modifications that can affect the viability plan (i.e. changes in the taxation system when projects are already in an advanced status of development).

Table II illustrates the situation in several countries where the cadastre has been decentralized. In all of them where a central coordination unit (Argentina, Ecuador, Madagascar and Peru) exists, the decentralized cadastres are running well, with good performance and without institutional troubles. In two cases (Mozambique and Congo) the mining cadastre is still under installation, although a coordination unit has been also proposed, designed and accepted. The only two cadastres with malfunctions, low investment rates and institutional conflicts are observed in Indonesia and Pakistan, where central coordination is not existing.

Table II

COUNTRY	POLITICAL ORGANIZATION.	NUMBER OF PROVINCES	GRANTING POWER	MINING CADASTRE COORDINATION	COMPUTER LINKING
ARGENTINA	Fed. Republic	23	Provincial	Central	Yes
D.R. CONGO (coming)	Republic	11	Central	Central	Yes
ECUADOR	Republic	22	Regional	Central	Yes
MADAGASCAR	Republic	6	Central Reg.	Central	Yes
MOZAMBIQUE (coming)	Republic	11	Central	Central	Yes
PERU	Republic	25	Central	Central	Yes
INDONESIA (yesterday)	Republic	32	Central Reg.	Central	No
INDONESIA (today)	Republic	32	Local	Do not exists	No
PAKISTAN	Fed. Republic	4	Provincial	Do not exists	No

It is right that the situation in all the countries of Table II is not exactly comparable, because not all countries are constituted as Federal Republics. Nevertheless, it must be considered that in some cases (Madagascar), the provinces have power delegation to grant directly some types of licenses, and consequently the situation is very similar (from the operational point of view) to the Federal Republic model.

It is important to clarify that central coordination is not incompatible or contradictory with the decentralization and the authority of the provinces. The administrative power for granting licenses must continue in hands of the provinces, and the unique responsibility of the central unit should be to coordinate (in behalf of the Provinces) the correct, uniform, homogeneous and consistent application of the legal framework related to the cadastre procedures.

LEGAL PROVISIONS GOVERNING THE MINERALS SECTOR OF PAKISTAN

1. The Constitution of the Islamic Republic of Pakistan, 1973, as amended and restored.
2. The Regulation of Mines and Oil Fields and Mineral Development (Government Control) Act, 1948; Act No. XXIV of 1948.
3. National Mineral Policy 1995 (Government of Pakistan, Ministry of Petroleum and Natural Resources, March 2002).
4. Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environmental Impact Assessment Regulations, 2000 (as published by the Ministry of Environment, Local Government and Rural Development in The Gazette of Pakistan, June 15, 2000).
5. Sindh Mining Concession Rules, 2002 (Government of Sindh, Mines & Mineral Development Department, March 18, 2002).
6. The Punjab Mining Concession Rules, 2002 (as published by The Government of the Punjab, Industries & Mineral Development Department in The Punjab Gazette, March 20, 2002). *The copy reviewed is missing pages 20-21, containing articles 25(3) - 29(1); pages 52-53, containing articles 84(a) - 86(4); pages 66-69, containing articles 133(11) - 148; and pages 82-83, containing articles 218 - 229(2). In addition, several pages are illegible due to the poor quality of the copy.*
7. Balochistan Minerals Rules, 2002 -- To Implement Provisions of National Mineral Policy (NMP) 1995, (Government of Balochistan, Department of Mines and Minerals, March 8, 2002).