

B/16/11/972

7 March, 2011

Shri Ashok Chawla,
Chairman,
Committee on Allocation of Natural
Resources (CANR),
Room No.40-A,
North Block,
New Delhi.

Dear Sir,

Sub: **Note for consideration by the Committee on allocation of
natural resources (CANR)**

We are indeed grateful to you for giving us an opportunity to put before you the views of the mineral resource industry on the allocation of natural resources.

We enclose a detailed note on the subject for your consideration.

Thanking you,

Yours faithfully,

(R.K. SHARMA)
SECRETARY GENERAL

Encl: **As above**

NOTE FOR ASHOK CHAWLA COMMITTEE ON ALLOCATION OF NATURAL RESOURCES (CANR)

INTRODUCTION

We are slightly intrigued by the nomenclature of allocation of natural resources particularly in respect of minerals (ore, coal and limestone) with which this Federation is directly concerned. In the case of mineral resources, the process starts right from the reconnaissance to prospecting/exploration and if the deposit is worth exploitation economically, then applies for mining lease. This is particularly so in the case of deep seated minerals which require state-of-the-art technologies and heavy investment. This thus has an element of risk. In this case, the Government should only do the job of a facilitator by simplifying the process of granting reconnaissance permit, and then, if the explorer so desires, convert them into prospecting/exploration licence and finally into a mining lease.

2. Currently, State Governments grant these permits/licenses/leases in terms of MMDR Act, 1957 and MCR, 1960, subject to final approval of GOI for minerals listed in First Schedule to MMDR Act, 1957.

3. Annexure I lists a cross-country comparison of various aspects of grant of these permits and other mining sector reforms as included in National Mineral Policy 2008, based on the report of High Level Committee (2006). India, it will be noted, scores lowest among the countries compared, with a score of 22 against 58 scored by Bolivia and 55 scored by China. On similar lines, in a survey of mining companies done by Fraser Institute, for “Policy Potential Index” of different countries, India ranked 60th out of 72 during 2009-10. Subsequently in a mid year update, India doesn’t rank anywhere. These survey results are presented in Annexures II & III respectively.

4. While some of these aspects are being partially addressed in the proposed MMDR Bill 2010 (in fact in some cases it's going in the reverse direction), a holistic view on all the evaluation parameters needs to be taken to address them, to enable the twin objectives of faster and better growth of mining sector to fulfill country's increasing demand for minerals, and to lead to a better governance system with very little scope for corruption.

5. Detailed exploration is a specialized job done by exploration companies, popularly known as *junior exploration companies*. Their exploration expertise is in most cases linked to a particular mineral or group of minerals. For exploration job, they bank on venture capital or hedge funds. Mineral rich countries such as US, Canada, Australia, Brazil, South Africa, Chile, and Mexico etc. do not want 'to spend' tax payers' money on the risky venture like exploration. These countries therefore encourage these private companies to undertake detailed exploration job by providing various incentives and security of tenure besides priority in grant of concessions as well as freedom to sell (both prospecting licenses and/or mining leases).

II. MARKET FORCES TO DETERMINE THE LEVEL OF EXPLORATION/MINING

6. The exploration and consequently exploitation of various minerals are governed by the market forces i.e. the prices they command for the metal(s). An idea of the exploration expenditure incurred for prospecting various minerals/metals can be had from the following table:

Table - I

Year	Companies involved	Amount spent (US\$ billion)	%age increase / decrease over last year
2006	1624	7.13	45.5
2007	1821	9.9	40.0
2008	1912	12.6	26.0
2009	1846	7.32	(-) 40.0
2010	-	11.2	530

Source: Metals Economic Group, Canada

7. Where this money was spent and on which mineral/metal can be observed from following:

Table - II

Commodity	(US\$ billion)				
	2006	2007	2008	2009	2010
Gold	3.21 (45%)	4.10 (41%)	4.914 (39%)	3.51 (48%)	5.71 (51%)
Base Metals (copper, lead/zinc, nickel)	2.28 (32%)	3.60 (36%)	5.04 (40%)	2.64 (36%)	3.70 (33%)
Diamond	0.86 (12%)	1.00 (10%)	1.008 (8%)	0.36 (5%)	0.34 (3%)
PGM (platinum group of metals)	0.21 (3%)	0.30 (3%)	0.378 (3%)	0.15 (2%)	0.11 (1%)
Other Minerals	0.57 (8%)	1.00 (10%)	1.26 (10%)	0.66 (9%)	1.34 (12%)
Total	7.13 (100%)	9.99 (100%)	12.6 (100%)	7.32 (100%)	11.2 (100%)

Source: Metals Economic Group, Canada

8. From the above tables, it will be observed that market forces are the best instruments for proper allocation of natural resources. If the unit price, being the main yardstick, goes beyond the reach of the consumer, there will be resistance. Efforts then get initiated in the direction of finding a viable substitute or alternative resource. This is very well borne out in the case of mica where

India had monopoly at one time. When the market forces were interrupted and the item was canalized through MMTC, which made it costly, a synthetic substitute was developed with better chemical and physical properties. India, the sole producer of mica, lost the market for ever. *It is therefore the job of the Government to see that the market forces are not disturbed in a way which distorts the market itself.*

9. Fears of an early exhaustion of mineral resources are thus not well founded. 'Mineral resources' are a market-based rather than physical concept and will change in response to changes in market conditions. Since most of the metals, both ferrous and non-ferrous, are elements of nature, about 85-90% of them are recyclable and would be available in increasing quantities. This should be taken cognizance of while framing policy on 'conservation' of resources or fiscal policies.

10. It is necessary to establish new resources/reserves and exploration will only be undertaken if there is the prospect of a return on expenditure. Reserves should more correctly be regarded as "working inventories" that are replenished as commercial need arises. As a result, the ratio of production to reserves is fairly constant. Reserves have very probably been sustained more or less continuously ever since a global market for minerals was established and there is no reason to believe that such a well founded trend will be reversed in the foreseeable future.

11. FIMI made a study sometime back of some of the vital natural resources of minerals which existed in the world in 1970 and in 1997, after adjusting production between 1970-96 :

Table - III

**Reserves: 1970 and 1997
(Plus cumulative production from 1970 to 1996)**

	1970 Global Resources (Club of Rome)	1970-96 Cumulative mine Production (WBMS/ABMS)	1997 Global Reserves (USGS)
Copper	279 x 10 ⁶ tonnes	226x10 ⁶ tonnes	310x10 ⁶ tonnes
Zinc	112x10 ⁶ tonnes	178x10 ⁶ tonnes	140x10 ⁶ tonnes
Silver	171x10 ³ tonnes	326x10 ³ tonnes	280x10 ³ tonnes
Gold	11x10 ³ tonnes	43x10 ³ tonnes	46x10 ³ tonnes

WBMS - World Bureau of Metal Statistics, ABMS - American Bureau of Metal Statistics, USGS - United State Geological Survey

It would be observed that having exploited between 1970 and 1996 more resources than what existed in 1970, the resources in 1997 were still enough to put the apprehensions of the Club of Rome as well as the Brundtland Commission in the background. *On the other hand, ironically, it is the so-called renewable resources that are under intense pressure and threat of scarcity (e.g. fish, agricultural land and fresh water).*

12. The concept of allocation of natural resources probably comes from the scare which even now continues to haunt about the impending possible scarcity of natural resources in times to come. It has its origin in the alarmist attitude of the Club of Rome originally in 1956 and subsequently repeated in 1974 which found its echo in the report of World Commission on Environment and Development, particularly known as Brundtland Commission submitted to UN in 1987. In its report, it defined sustainable development which ensures *“that it meets the needs of the present without compromising the ability of future generations to meet their own needs”*.

13. One cannot agree with the definition given by Brundtland Commission for the simple reason that there cannot be any unbridled exploitation even if one

wants to because of limitation of market forces. One can exploit to the extent a commodity is demanded and at an economic price. The myth that the present generation is exploiting resources unmindful of the future generation is not borne out by facts. This sort of thought-process will deprive the present as well as future generations' optimal utilization of resources. Scientific and technological developments have made today's waste into tomorrow's resources. It may be what we preserve today; the future generation may not require that at all. We cannot therefore envisage what the world will require, let us say, 100 years hence at that level of technological development.

14. it's also important here to introduce the concept of finiteness of natural mineral resources. With arguments as given above in terms of intensity of exploration, finding substitutes and increasing proportion of recycled materials, the so called finite resources can continue to serve mankind for an indefinite period. Therefore, in our opinion, *the natural resources are infinitely finite and no unnatural restraints and constraints should be imposed on either consumption or production or trade. Rather, these should be left to market forces to determine.*

15. **Technological developments:** One cannot envisage the pace of technological developments or quiet revolution taking place without much fanfare world wide. Already work is on full pace on the development of nanotechnologies* leading to production of light, low-density and high strength materials to replace steel and other metals.

* Nano comes from the Greek word for dwarf. Usually nanotechnology is defined as the study and manipulation of matter smaller than 100 nanometres - that's the scale of things like molecules and viruses. Ten hydrogen atoms nestled up against each other are just one nanometre long. And one million nanometres fit into a millimetre. Hard to grasp? Think of it this way: if a person was a nanometre wide, then 13 million of them, standing shoulder to shoulder, would fit on your thumbnail.

Prof Raw Baughman of University of Texas created a material in 2004 which is stronger than steel, transparent and very light. A hectare-size sheet would weigh just 280 grams. Carbon in the form of graphite is soft, malleable and easily broken. But carbon nanotubes, a very thin sheet of graphite formed into a tube – a tiny straw-like cylinder as small as half a nanometer wide – are up to 100 times stronger than steel and six times lighter. These are hardest, stiffest, strongest materials known and are among the world's best conductors of heat and electricity. They can carry some 1000 times more electrical current than copper wire. Further, there are technologies under development to derive energy from nuclear fusion which may make coal redundant for energy generation. *Efficient and better usage of these elements of nature would almost ensure that the world will never be able to foresee a time when there is a possible danger of resource exhaustion, renewable or non-renewable.*

III. ALLOCATION OF CAPTIVE MINES – A DISTORTION OF MARKET FORCES

16. Allocation of captive mines to steel, aluminium or cement plants is a distortion to the operation of market forces:

- (i) Size of the area given as captive to the finished industry is disproportionate to the requirements of the consuming industry.
- (ii) Since cost of production is a transfer price, it leads to the wasteful/inefficient use of resources. For example, Indian steel plants, who have captive mines, on an average use in their blast furnaces, 63% Fe iron ore as feed as against the world average of 60% Fe.
- (iii) It leads to selective and wasteful mining
- (iv) Since area is very large, serious exploration is not undertaken. Rather, efforts are made to hide the potential resources to avoid detention.

IV. AUCTION/BIDS FOR MINERAL CONCESSIONS – DISTORTION OF MARKET

18. Auction of any resource, howsoever scarce, leads to ultimate destruction of the deposit as main efforts of the entrepreneur who buys the deposit in auction will be to maximize profit at the cost of proper and scientific development of the resources and its proper utilization. Deep seated minerals/metals like gold, nickel, copper, lead, zinc, diamond cannot be auctioned for the simple reason that there has to be intense exploration with state-of-the-art technology which requires heavy investment.

19. Mechanism is already in place under the existing royalty system for capturing the economic rent attributable to the state. These are presently set at an internationally competitive level, and applying additional financial impost, either up-front or as a revenue share during production would strongly discourage risk capital for mineral exploration, particularly on an international level.

20. There are a few misconceptions about the mining industry in general, mainly that of windfall profits being earned by the mining industry. Many of the policy measures and regulations stem from these misplaced perceptions. We want to place on record some characteristics of mining business to put these perceptions in the right perspective.

- The mining industry goes through price cycles which mean the prices are very volatile and keep going up and coming down.
- The profit margins vary over different minerals and, within individual mineral, for different deposits based on their geology, geometry, geography and complexity.
- Profits margins also vary over the life of the mine based on size / volume of operation and depth as well as grade being worked.

Thus a mine may earn higher profits in the initial period while it may actually lose money towards the end of life of the mine.

- Mining being a risky business with long gestation periods for bringing a deposit into profitable production, commensurately higher profit margins are necessary for mining investments to become attractive to the investors so that they bring necessary technologies and level of investments required for scientific and socially beneficial mining operations as well as closure.

21. In the proposed draft MMDR Bill 2010, it has been stipulated that

- No license required for RP/PL for GSI, Atomic Minerals Directorate, MECL, CMPDI/State DMGs/ such other Govt. agencies as may be notified by Central Government (read State/Central PSUs) for promotional work – Section 4(2):

Time limitation: 3 years for RP
6 years for PL

- Setting aside this area upto 3 years for grant mineral concession under section 13 (Sec. 4(4))

Track record of PSUs in exploration activities has not so far been such as to generate confidence in prospective entrepreneur(s).

22. Hoda Committee suggested for disposing of ore bodies which have been **fully prospected** by public agencies at public expense through a transparent tender / auction process. What we got in Section 13:

- (i) invite competitive offers for grant of a prospecting license over an area where reconnaissance has been conducted

- (ii) invite competitive bids for a mining lease through a prospecting report and feasibility study

Section 13 lists out numerous weightages in both these spheres to evaluate the bids, leaving enough room for discretion.

23. In areas where only reconnaissance prospecting has been done, and the full extent / size / grade of ore is unknown or poorly defined, this will lead to highly speculative auctions, with a high risk of over-paying leading to “Winners’ – Curse”. This raises the spectre of mining investors unable to recover their up-front investment and being forced to abandon the mining project midstream, with associated environmental and economic consequences.

24. As we know, discretion is the breeding ground for corruption. The provision therefore leaves enough scope for dubious deals and ultimate litigation. Further, except Kyrgyzstan and Russia, no other country follows tender/auction process. There are various reasons therefore:

- a company would like to recover the cost as fast as it can
- selective mining leaving low grade minerals in the ground
- no serious exploration
- huge wastage of resources
- will increase the cost of final product(s)
- may result in cartelization and monopolistic practices

25. We therefore feel that the process of inviting bids/auction for mineral deposits is fraught with the danger of playing with our natural resources which will lead to their wastage.

V. DIFFERENTIATION BETWEEN PUBLIC AND PRIVATE SECTOR – DISTORTION OF MARKET FORCES

26. At a time when Central Government is dis-investing in its public sector units, the State Governments are vying with each other for the reservation of the mineral bearing areas for public sector. There is no such clause for any preferential treatment to public sector in the present MMDR Act, 1957 or in the proposed draft MMDR Bill 2010. Even if in an area, reconnaissance/prospecting has been done by private sector, the State Governments reserve the area for public sector. This will put a damper on prospecting and exploitation of an area for economic development and lead to distortion in market mechanism.

27. So far State/Central PSUs were

- sitting on large resources without any benefit to society
- not having any technical/scientific personnel to explore and exploit resources.
- not having enough financial resources to undertake any activity.
- depending on and giving these resources for exploitation to private persons/companies who were exploiting them unscientifically and selectively.
- no exploration by PSUs or private companies to whom exploitation permit is given.

28. Hoda Committee recommended that State PSUs should act as a catalytic agent and take role of promoters rather than engage themselves in mining. **Even before the draft Bill** is enacted, State governments have moved in reverse direction:

- Rajasthan: (a) Rejected 10 PL and one ML applications of Metal Mining India (P) Ltd.(MMI) after the expiry of their RPs/PLs in 2008 – **although they reserved the areas in favour of RSMML only on 10.3.2010. MMI had spent huge money and efforts in exploring these areas.**
- (b) Many companies applied for PLs for sulphur/potash deposits whose exploration and exploitation requires huge investment – again **reserved for RSMML** which do not have any financial/technical capability.
- Tamil Nadu: No RP/PL was granted to Premier Nickel Mines Ltd. on the pretext that entire area to be explored under MoU between TAMIN and GSI.
- Karnataka: State Government rejected four PLs applied for after expiry of their two RPs in 2006 by Deccan Exploration (P) Ltd. and Geomysore Services (India) Pvt. Ltd. – area **reserved for HGML.**
- Chhattisgarh: Put a condition on Mira Exploration (P) Ltd. after issuing letter of intent for one PL: In the event of any adverse decision of the Committee against grant of ML, State Government **will not be responsible and not entertain any claim for expenditure incurred in prospecting.**
- Gujarat: Entire bauxite/limestone areas **reserved for GMDC**

29. It should be noted that India is the largest consumer and importer of gold. Indians bought 963 tonnes of gold in CY 2010, worth USD 38 billion. Of this, imports amounted to 918 tonnes. A sensible policy should have been to

go all-out to promote domestic exploration and mining for gold to reduce these huge imports. What we actually see is the reverse – technically competent companies willing to invest in exploration and mining of gold in potentially good areas of Karnataka and Rajasthan – are being thwarted from working. The areas discovered by these entrepreneurs after hard work have now been reserved for PSUs who are not doing anything.

VI. OPPORTUNITIES LOST BY INDIA

30. Australia (as also jurisdictions in Southern Africa and both North and South America) has followed the principles of First-Come-First-Served(FCFS), clarity in law and assured security of tenure to explorers and miners. The table below depicts, where we, as a nation, have lost out in a listing of a few commodities.

Table – V

RESERVES	INDIA		AUSTRALIA	
	1980	2005	1980	2005
Iron Ore (hematite) (million tons)	11470	13763	15000	40000
Diamond (million carat)	Majhgawan	2.6 (Majhgawan)	0	230
Gold (metric tons)	56.1	326.7	400	6000
Coal (billion tons)	111 (inferred)	246 (inferred)	29 (Proved)	42 (Proved)
Bauxite (million ton)	2489	2636	3000	8700

31. With the exception of coal, no other commodity has seen significant mineral exploration in India. The opportunity cost lost as a consequence is significant. It is a misnomer to say that India currently follows the FCFS. It does not. Realistically, some States selectively allocate areas, and limited to

diamonds, through a slow and cumbersome process and therefore lose out to mineral exploration dollars.

32. As an example, had India between 1980 and 2005 enabled the FCFS process to be implemented and discovery followed a proportional growth path as Australia, then in value terms, the tangible opportunity lost works out to:

- For iron ore is 16 BT equating to about USD 800 billion (at mine gate price of USD 50)
- For gold is 500 t equating to about USD 25 billion (at a price of USD 1400/t)
- For bauxite is 4 BT equating to about USD 80 billion (at a mine gate price of USD 20)

33. Experience in other parts of the world shows that reserves can increase significantly with additional exploration and beneficiation driven by state-of-the-art technology. Australia's known Iron ore resources increased hundred fold in 40 years, from around 400 million tonnes in 1966 to 40 billion tonnes in 2005 after having extracted 3 billion tonnes in the interregnum.

VII. SUMMING UP

34. To sum up, FIMI's views and suggestions are listed below:

- a. A policy of no reservation for Government agencies or PSUs for any mineral/mining areas except in circumstances of national security or where no private sector interest exists.
- b. Guaranteed security of tenure
- c. Transferability of exploration and mining leases without prior approval

- d. Faster approvals for obtaining exploration/mining licenses as per time frame mentioned below –
 - a. RP – 3 months
 - b. PL – 4 months
 - c. ML – 6 months

 - e. If the State Governments are unable to grant leases within the stipulated time frame, Central Government should be empowered to hear the case for appropriate orders within a reasonable period, suggested to be half the period required for original decision.

 - f. Allocation of mining permits through first-in-time principle only, not through auctions or bids, through prescribed and transparent criteria, to disable any discretion.

 - g. Thorough review of various levies/ royalties and taxes being charged on various mining sector industries with the following objectives:
 - i. attracting investments where required
 - ii. govern behaviors: sustainable development, proper use of land, scientific development, tribal issues, waste disposal / utilization etc.
 - iii. facilitate a level playing field to investors across different sectors and among domestic / foreign investors.

 - h. A single agency, like IBM, should be made responsible for overseeing the overall mining development, approvals and inspections, from a mining as well as environmental perspective. IBM will need a lot of capacity-building but this will remove a lot of multiplicity and will work in favour of both mining sector's scientific development and regulation as also remove duplication which is a breeding ground for corruption, indecisiveness and inefficiency.
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Appendix I

Cross-country Comparison of Various Aspects of Mining Reforms

Country	Score								
	Security of tenure: (a) Guaranteed: 9 (b) Priority: 1	Transferability of exploration and mining leases: (a) without prior approval: 9 (b) with prior approval: 4	Time required to obtain a exploration licence: (a) less than 3 months: 6 (b) 3-6 months: 2 (c) Over 6 months: 0	Duration of exploration: (a) 7 years or more: 6 (b) 4-7 years: 4 (c) less than 4 years: 0	Duration of ML: (a) 50 years and above: 6 (b) 25-49 years: 4 (c) less than 25 years: 0	Office responsible for Environment: (a) within Mines Ministry: 6 (b) Unit within Mines Ministry advising Environment Ministry: 6 (c) Only Environment Ministry: 1	Approval process to obtain ML: (a) No or limited government approval (b) Subject only to EIA: 4 (c) Subject to feasibility study and EIA: 0	Application for licence: (a) First come first served: 9 (b) Based on set criteria like technological, financial, and in the Indian case, the value addition: 2 (c) at the discretion of government: 0	Total score (Sum of cols. 2-9)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Argentina	9	9	0	6	6	6	4	9	49
Bolivia	9	9	6	9	6	6	4	9	58
Botswana	0	4	Not specified	4	6	6	4	2	26
Brazil	9	4	0	4	6	6	4	2	35
Chile	9	9	2	4	6	6	4	9	49
Peru	9	9	6	6	6	6	4	9	55
Mexico	9	9	6	4	6	1	4	9	48
China	9	9	6	6	6	6	4	9	55
India	1	4	0	4	6	1	4	2	22
Ghana	9	9	2	6	6	1	4	9	46
Western	9	4	6	6	6	NA	4	9	44

Australia									
Indonesia	9	4	Not specified	6 (Contract of work)	6 (Contract of work)	6	4	9	44
Namibia	9	9	Not specified	0	4	6	4	9	41
Tanzania	9	9	6	6	6 (renewed after every 5 years)	6	4	9	56

Note: 1. In the case of 'Not specified' the score is taken as 0.

2. Both for exploration and mining, the total period that was considered includes the renewal also.

3. The score is on the basis of Koh Naïo, Felix Remy, John P. Williams (2001), *Mining Sector Reform and Investment: Results of a Global Survey*, World Bank.

In order to compute each Reform Index, the authors assigned a score and a weight to each answer to a question. The score assigned to an answer ranges from 0 to 9 based on its importance as a component of generally accepted best practice in mining sector administration, as shown in the table below.

Score	Importance to mining sector reform
9	Extremely important
6	Very important
4	Partially important
2	Somewhat important
1	Restrictive
0	Very restrictive

For example, the second answer ('A2') to the first question on the Questionnaire (relating to 'Security of Tenure') states that the country provides a 'guaranteed right to obtain a mining licence subject to transparent criteria'. This answer is assigned a score of 9 because of its importance as a key element of international best practice in the administration of mining rights. By contrast, the third answer ('A3') states that the country provides a 'priority right to apply for a mining licence but approval is discretionary'. The score for that answer is only 1 because it represents something significantly less than 'best practice' on an issue of critical importance.

Source: 1. World Bank (2001), *Review of Legal and Fiscal Frameworks for Exploration and Mining*.

2. Koh Naïo, Felix Remy, and John P. Williams (2001), *Mining Sector Reform and Investment: Results of a Global Survey*, World Bank.

3. Western Australia Mining Act, 1978.

Source : Report of the High Level Committee, Dec. 2006, Govt. of India, Planning Commission -

Annex *wa* → II

Survey of Mining Companies 2009/2010



Fred McMahon and Miguel Cervantes

This publication has been made possible thanks to the support of the Prospectors and Developers Association of Canada (PDAC) and the Fraser Institute.

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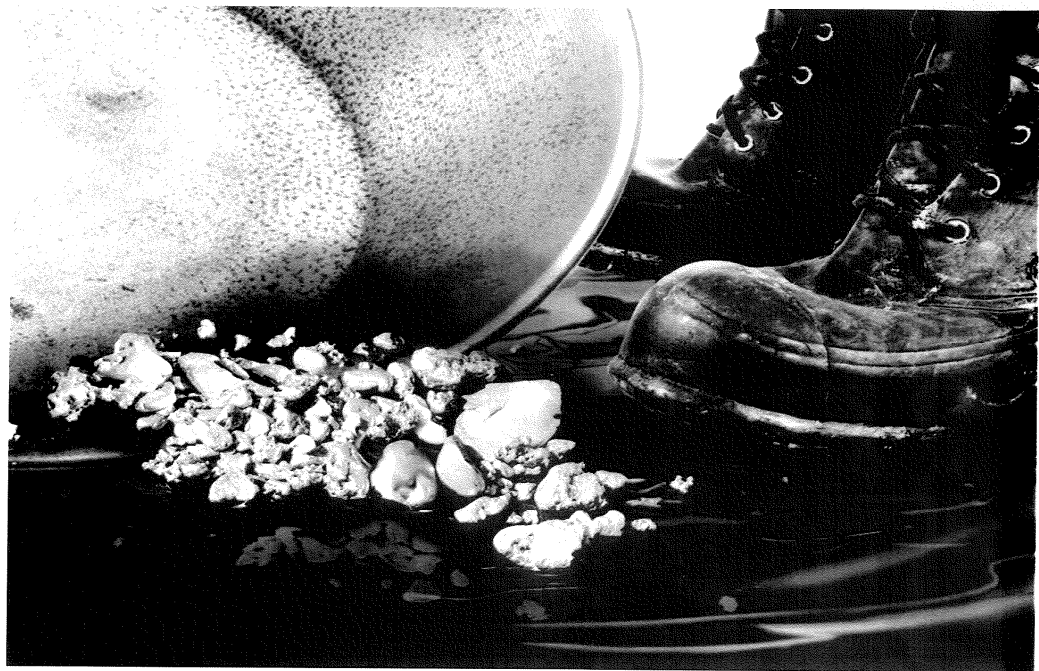
Table 1: Policy Potential Index

		Score				Rank			
		2009/	2008/	2007/	2006/	2009 /	2008/	2007/	2006/
		2010	2009	2008	2007	2010	2009	2008	2007
Africa	Botswana	66.5	64.9	74.3	47.3	21/72	18/71	11/68	38/65
	Burkina Faso	49.6	45.1	45.5	34.5	36/72	42/71	38/68	46/65
	DRC (Congo)	18.9	24.1	34.4	17.4	68/72	63/71	51/68	57/65
	Ghana	53.3	51.3	63.1	45.3	34/72	35/71	23/68	40/65
	Mali	58.2	53.6	24.7	41.4	27/72	33/71	58/68	42/65
	Namibia	49.2	52.5	51.4	*	37/72	34/71	33/68	*
	South Africa	26.2	40.4	34.6	29.0	61/72	49/71	50/68	53/65
	Tanzania	44.9	41.8	35.0	41.3	44/72	48/71	49/68	43/65
	Zambia	36.5	44.4	49.8	31.0	52/72	44/71	34/68	50/65
	Zimbabwe	14.7	19.1	2.9	2.9	69/72	65/71	67/68	65/65
Latin America	Argentina	28.4	33.0	40.3	40.9	59/72	56/71	43/68	44/65
	Bolivia	20.1	16.5	7.0	9.2	66/72	66/71	64/68	63/65
	Brazil	46.1	47.1	45.0	51.2	40/72	39/71	39/68	36/65
	Chile	79.1	79.9	82.0	64.1	7/72	7/71	6/68	27/65
	Colombia	40.6	43.0	26.3	24.6	48/72	46/71	56/68	55/65
	Ecuador	10.5	4.1	4.9	30.1	71/72	70/71	66/68	51/65
	Guatemala	21.9	5.1	*	*	64/72	69/71	*	*
	Honduras	20.4	11.8	0.0	*	65/72	68/71	68/68	*
	Mexico	58.1	57.7	63.0	64.1	28/72	28/71	24/68	28/65
	Panama	31.2	42.4	6.1	*	56/72	47/71	65/68	*
Eurasia	Peru	47.7	56.6	54.1	30.1	39/72	30/71	28/68	52/65
	Venezuela	6.9	3.7	20.3	4.8	72/72	71/71	59/68	64/65
	China	45.1	45.2	33.0	28.0	42/72	41/71	53/68	54/65
	Finland	90.2	72.7	89.9	62.4	3/72	14/71	3/68	29/65
	India	27.1	16.2	11.6	32.4	60/72	67/71	63/68	49/65
	Ireland	72.1	59.8	76.9	47.4	17/72	26/71	9/68	37/65
	Kazakhstan	39.0	33.0	25.7	15.2	51/72	57/71	57/68	59/65
	Kyrgyzstan	29.9	22.5	*	*	58/72	64/71	*	*
	Mongolia	19.0	34.5	19.2	11.5	67/72	55/71	61/68	62/65
	Norway	55.9	64.5	*	*	31/72	19/71	*	*
Russia	44.2	37.9	35.8	16.3	45/72	53/71	46/68	58/65	
Spain	57.5	62.1	51.7	71.4	29/72	22/71	32/68	21/65	
Sweden	73.9	73.8	75.4	66.3	12/72	13/71	10/68	26/65	
Turkey	52.8	39.8	35.7	52.3	35/72	50/71	47/68	34/65	

*The figures in this table and the accompanying figure count 100% of all "encourages" answers, but only 50 percent of the "not a deterrent" answers. For a discussion, please see page 13.

Annexure-III
2010 Mid-Year Update

Survey of Mining Companies
2009/2010



Fred McMahon and Miguel Cervantes

FRASER
INSTITUTE

Table 1: Policy Potential Index

		Score				Rank			
		2010 update	Com-parative update index	Com-parative 2010/2009 index	Differ-ence	2010 update	Com-parative update index rank	Com-parative 2010/2009 index rank	Differ-ence
Canada	Alberta	96.0	95.8	90.6	5.2	1	1	2	1.0
	Brit. Columbia	49.1	47.2	37.8	9.4	26	27	37	10.0
	Manitoba	75.5	73.6	73.6	0.0	11	12	11	-1.0
	Newfoundland & Labrador	80.0	79.8	75.4	4.4	7	7	9	2.0
	Northwest Territories	37.3	37.6	38.4	-0.8	32	33	36	3.0
	Nunavut	54.0	55.0	46.0	9.0	22	20	32	12.0
	Ontario	55.1	55.2	57.6	-2.4	20	19	21	2.0
	Quebec	92.0	91.2	97.4	-6.2	3	3	1	-2.0
	Saskatchewan	84.4	83.8	81.4	2.4	5	5	6	1.0
	Yukon	85.8	84.8	73.2	11.6	4	4	13	9.0
Average change					3.3				3.7
USA	Alaska	78.4	77.6	72.8	4.8	9	9	14	5.0
	Arizona	58.2	59.0	55.4	3.6	17	16	23	7.0
	California	32.2	31.8	16.6	15.2	37	39	47	8.0
	Colorado	18.7	20.6	24.6	-4.0	44	44	42	-2.0
	Montana	33.6	34.4	35.6	-1.2	36	34	39	5.0
	Nevada	76.5	77.0	88.8	-11.8	10	10	3	-7.0
	Utah	70.2	72.0	68.8	3.2	13	13	15	2.0
	Wyoming	74.4	76.2	75.6	0.6	12	11	8	-3.0
	Average change					1.3			
Australia	New South Wales	30.5	31.8	60.4	-28.6	38	38	19	-19.0
	Northern Territory	44.0	48.4	73.6	-25.2	29	25	12	-13.0
	Queensland	36.7	38.2	56.2	-18.0	33	32	22	-10.0
	South Australia	61.6	64.0	73.8	-9.8	15	14	10	-4.0
	Tasmania	26.4	29.0	62.8	-33.8	42	40	17	-23.0
	Victoria	27.8	28.2	49.4	-21.2	41	42	28	-14.0
	Western Australia	45.5	46.8	64.4	-17.6	28	28	16	-12.0
Average change					-22.0				-13.6
Oceania	Indonesia	23.5	21.8	26.4	-4.6	43	43	41	-2.0
	New Zealand	49.5	52.4	52.8	-0.4	25	23	25	2.0
	Papua New Guinea	34.9	33.6	37.2	-3.6	35	36	38	2.0
	Philippines	36.7	34.0	12.6	21.4	34	35	49	14.0
	Average change					3.2			

Table 1: Policy Potential Index

	Score				Rank				
	2010 update	Com-parative update index	Com-parative 2010/2009 index	Differ-ence	2010 update	Com-parative update index rank	Com-parative 2010/2009 index rank	Differ-ence	
Africa	Botswana	79.3	78.4	77.8	0.6	8	8	7	-1.0
	Dem. Rep. of Congo (DRC)	29.6	28.4	23.4	5.0	40	41	43	2.0
	Ghana	54.4	53.2	60.0	-6.8	21	22	20	-2.0
	Namibia	50.4	48.4	53.8	-5.4	24	26	24	-2.0
	South Africa	39.6	39.0	22.2	16.8	31	31	44	13.0
	Tanzania	52.9	50.8	51.2	-0.4	23	24	26	2.0
	Zambia	47.1	46.0	40.8	5.2	27	29	34	5.0
	Zimbabwe	14.2	15.6	13.6	2.0	46	45	48	3.0
	Average change				2.1				2.5
Latin America	Argentina	44.0	42.4	28.2	14.2	30	30	40	10.0
	Bolivia	10.2	11.2	19.2	-8.0	48	47	46	-1.0
	Brazil	56.5	56.0	47.8	8.2	19	18	31	13.0
	Chile	82.5	83.0	82.8	0.2	6	6	5	-1.0
	Colombia	56.9	54.6	40.2	14.4	18	21	35	14.0
	Ecuador	3.8	4.2	8.6	-4.4	51	51	50	-1.0
	Mexico	62.0	59.8	60.6	-0.8	14	15	18	3.0
	Peru	59.1	57.4	49.8	7.6	16	17	27	10.0
	Venezuela	12.5	10.8	6.2	4.6	47	48	51	3.0
Average change				4.0				5.6	
Eurasia	China	30.0	33.0	48.2	-15.2	39	37	30	-7.0
	Finland	93.8	94.0	87.2	6.8	2	2	4	2.0
	Kazakhstan	7.3	8.0	42.8	-34.8	49	49	33	-16.0
	Mongolia	4.0	4.4	21.2	-16.8	50	50	45	-5.0
	Russia	15.8	14.8	48.4	-33.6	45	46	29	-17.0
	Average change				-18.7				-8.6

See "Comparing the Policy Potential Index" on pages 15 and 16 for an explanation of this table.