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Implications of Trade Liberalisation to Malaysia's Mining Industry

Azimah Ali

Mineral Economics Division
Minerals and Geoscience Department Malaysia
22nd Floor, Tabung Haji Building, Jalan Tun Razak
50658 Kuala Lumpur, Malaysia

Abstract— Mining operations are easily recognizable. By nature, the mining industry, just like oil and gas industries, leaves behind a `footprint', an environmental, social and economic impact. As trade increases, the environmental impact is postulated as increasing. Each mining phases involves specific activities that have an effect on the environment. Trade and environment, as an issue, is by no means new. The link between trade and environmental protection, both the impact of environmental policies on trade and the impact of trade on the environment, was recognized as early as 1970. Under the current laws of Malaysia, the government allows a hundred percent equity participation from any foreign economy to undertake a mining operations in the country, subject to legislations under the relevant State Mineral Enactment. Current trade negotiations contain provisions in the environment and investment chapters which have serious implications for the domestic environmental policies and measures. The environmental rules and regulations taken by the Malaysian government to protect the environment may be challenged as `expropriation', which is defined as leading to an obligation to compensate the foreign investors and/or change the Malaysian laws and regulations. On the other hand, Malaysia is bounded by our very own environmental rules and regulations. Should Malaysia failed to implement and enforce any of its legal environmental regulations, the country may be subjected to dispute as we are party and signatories to several Environnmental Laws and Treaties. This paper looks at the link between trade and the environment, outlined the environmental problems related to the mining industry and its implications to trade negotiations.

Keywords: trade liberisation, mining, environmental regulation

Implikasi Perdagangan Bebas Terhadap Industri Perlombongan Malaysia

Abstrak— Operasi perlombongan sangat mudah dikenali. Secara semulajadinya, industri perlombongan, seperti juga industri petroleum dan gas, meninggalkan sejenis `jejak'- impak alam sekitar, sosial dan ekonomi. Dengan peningkatan perdagangan, kesan terhadap alam sekitar diunjurkan akan bertambah. Setiap fasa perlombongan melibatkan aktiviti tertentu yang melibatkan alam sekitar. Perdagangan dan alam sekitar telah menjadi isu sejak sekian lama. Pertalian antara perdagangan dan perlindungan alam sekitar, baik dari segi impak polisi alam sekitar terhadap perdagangan mahupun dari segi impak perdagangan terhadap alam sekitar telah dimaklumi sejak tahun 1970. Dibawah Undang-undang Malaysia, kerajaan membenarkan ekuiti seratus peratus penyertaan ekonomi asing untuk mengambil bahagian didalam operasi perlombongan di dalam negara, tertakluk kepada Enakmen Mineral negeri berkaitan. Perbincangan kerjasama perdagangan meliputi beberapa dasar dibawah tajuk-tajuk Alam Sekitar dan Pelaburan yang mempunyai implikasi serius terhadap polisi dan undang-undang Alam Sekitar negara. Undang-undang dan Peraturan Alam Sekitar yang dikuatkuasakan oleh kerajaan untuk melindungi alam sekitar boleh digunakan sebagai `penghalang' yang didefinasikan sebagai obligasi bagi membayar pampasan kepada pelabur asing dan/atau mengubah Undang-undang negara. Dari sudut yang lain pula, Malaysia terikat dengan Undang-undang dan peraturan Alam Sekitarnya sendiri. Sekiranya Malaysia gagal melaksanakan atau menguatkuasakan sebarang Peraturan Alam Sekitarnya, negara ini boleh dikenakan tindakan (dispute) memandangkan Malaysia telah menandatangani beberapa Perjanjian Alam Sekitar. Kertaskerja ini melihat kepada pertalian antara perdagangan dan alam sekitar, masalah alam sekitar yang melibatkan industri perlombongan dan implikasinya terhadap perbincangan perdagangan.

INTRODUCTION

Mining operations are easily recognizable. By its nature, the mining industry, just like oil and gas industries, leaves behind a `footprint' – an environmental, social and economic impact (World Bank, 2002). Several `green reports' concluded that as trade increases, mining activities increases and the environmental impact is postulated as increasing. Developing countries often seek to exploit mineral resources and mining as a way of providing much needed economic revenue. Mineral wealth is part of a nation's natural capital and the more capital a nation possesses the richer it becomes (Davis & Tilton, 2002).

The relationship between trade and environment is a complex issue. The link between trade and environmental protection - both the impact of environmental policies on trade, and the impact of trade on the environment - was recognized as early as 1970 (Clark & Intarapravich, 2002).

What is the link between trade liberalization and the environment? Vogel (2000) explained that the growth of policy linkages between the formerly distinct policy areas of trade and environmental regulation is related to the

convergence of two trends: a reduction in trade barriers and an increase in environmental regulation.

What happen to the environment when trade is liberalized? Economic theory suggests that trade between countries with different levels of environmental protection could lead pollution-intensive industry to concentrate in the nations where regulations are lax. Developing countries, more often than not, frequently have less stringent environmental regulations than developed countries (Azimah Ali *et al*., 2006). This paper looks at the link between trade and the environment, the environmental problems related to the mining industry and its implications to trade negotiations.

TRADE AND THE ENVIRONMENT

Between 1971 and 1991, environmental policies began to have an increasing impact on trade, and with increasing trade flows, the effects of trade on the environment had also become more widespread. This led to a number of discussions, which include Tokyo Round of trade negotiations (1973–1979), GATT ministerial meeting (1982), Uruguay Round of Meetings (1986–1994), World Commission on Environment and Development (1987) – Our Common Future (also known as the Brundtland Report), and the UN Conference on Environment and Development (UNCED), Marrakesh (1994) – Decision on Trade and Environment (World Bank, 2002).

The initial moves resulted in more concrete results within the trading system. The environment and trade were linked more explicitly in the new constitution of the multilateral trading system signed in 1994. The later rounds of negotiations under the General Agreement on Tariffs and Trade (GATT) had resulted in the formation of World Trade Organization (WTO). In Marrakesh (April 1994), ministers signed a `Decision on Trade and Environment' which states that:

"*There should not be, nor need be, any policy contradiction between upholding and safeguarding an open, non-discriminatory and equitable multilateral trading system on the one hand, and acting for the protection of the environment, and the promotion of sustainable development on the other.*"

Corresponding to this remark and with the current trend in the world economy moving towards liberalized trade, it is pertinent for Malaysia to understand and position ourselves in accordance to the aspiration of WTO and the need of the country.

So far, Malaysia had signed an FTA with the ASEAN countries and Japan while on-going negotiations on other FTAs and Joint Study Negotiations are being held with USA, Pakistan, New Zealand, Australia, Chile, and India. Negotiations were also undertaken via the regional ASEAN FTAs with these countries and countries such as China, and Republic of Korea (Azimah Ali, 2007).

According to MITI, Malaysia's trade policy is to pursue trade liberalisation through the rule-based multilateral trading system under the WTO. To complement the multilateral liberalisation approach, Malaysia has also chosen to pursue regional and bilateral trading arrangements.

The Malaysian economy

As trade liberalization grew in recent years, the composition of trade has changed substantially, notably with the expansion of services trade and the larger role of developing countries. The resulting intra-industry trade and the decentralization of production activities have opened new opportunities for developing countries. In Malaysia particularly, the development of the manufacturing sector was phenomenal. Our exports have changed, evolving from a composition dominated by primary commodities like tin, rubber, and palm oil, to increasingly include manufactures and services. In the minerals industry, the mineral-based products such as iron and steel, cement, ceramics, alloys, and other industrial mineral products contributed significantly towards the economy.

In 2006, Malaysia's total trade amounted to RM1.01 trillion, the highest ever recorded since its increase by 9.9 percent in 2005 to reach RM967.82 billion. Malaysia's exports in 2006 expanded by 10 percent to reach RM588.9 billion. while imports grew 10.5 percent to RM480.7 billion from RM434.0 billion in 2005.

Table 1 shows Malaysia's exports, imports and trade balances for the years 2000 to 2006. The figure showed that with liberalization, trade seemed to have a positive impact on Malaysia, a trend viewed in most if not all developing countries embracing free trade. Figure 1 shows Malaysia's Monthly External Trade Performance for the period 2000 until 2007. The trend showed that although there were ups and downs along the year, the overall trend was an upward performance.

The mineral and mining sector's contribution towards the economy

The Malaysian economy grew by more than 5.0 percent in 2006, with most of the economic indicators showing positive trends. With the total population of 26.4 million in 2006, the country's GDP recorded at real 1987 prices was RM277,263 million, a growth of 5.8%. As a trade-dependent nation, Malaysia thrives on external trade.

Table 2 showed the external trade statistics for the overall economy and the contribution of the minerals and mining industry (excluding oil and gas) for the years 2000 until 2006. The data showed that in correspondence with the increase in the overall trade as a result of liberalization, the spillover effect in the export market is experienced in the mining sector as well. Malaysia however, remained a net importer of mining products.

ENVIRONMENTAL IMPACTS OF MINING IN MALAYSIA

Each mining phases involves specific activities that have an effect on the environment. The general phases involve in the mining industry include:

- Exploration and Development
- Exploitation
- Processing
- Closure and Rehabilitation

Table 3 gives the summary of mining activities involved and the environmental impact of the respective phases.

The mining industry may cause severe environmental degradation because of its location, size, mining methods, macroeconomic participation, level of employment, role of international markets and the non-renewable nature of the mineral resources. Mining activities have a significant influence on environmental problems at the regional and national level such as:

- Waste Material Management
- Biodiversity and Habitat
- Other environmental Impact

In general, the main environmental impact of mining is the eventual exhaustion of the natural resource. Other frequent and common negative impacts of mining operations are towards:

- Energy and water consumption,
- Air, water and land pollution
- Landscape alteration
- Soil erosion
- Destruction of river banks

It is clear that mining activities have a significant influence on environmental problems both at the regional and national level.

THE IMPLICATIONS ON MINING AND ENVIRONMENT IN RELATIONS TO TRADE LIBERALIZATION

Free Trade Agreements (FTAs) under the World Trade Organisation (WTO) are cascadable to some degree — if some countries sign agreement to form free trade area and choose to negotiate together another free trade agreement with some external country (or countries) — then the new FTA will consist of the old FTA plus the new country (or countries) (Brooks, 1998). As such, every FTA need to take into consideration the other party's commitment and obligations.

Malaysia's mining rules and regulations

Presently, the Malaysian mineral and mining operations must comply with a broad range of federal, state, and local government laws and regulations. These laws govern where mines can operate, how mines are operated, and how mined land is reclaimed for other uses. Land is a state matter (Otto, 1991). The Mineral Development Act (1994) and the respective State Mineral Enactments (SME's) regulates access to these land. Requirements affecting environmental performance is regulated by federal and state authority

Table 1: The external trade of Malaysia, 2000-2006.

Year/ Period	Total Exports Value (RM million)	Total Import Value (RM million)	Trade Balance Value (RM million)
2000	308,935	230,610	78,325
2001	334,283	280,229	54,054
2002	357,430	303,090	54,340
2003	398,881	317,746	81,135
2004	480,740	400,076	80,663
2005	533,789	434,029	99,760
2006	588,965	480,772	108,192

Source: MATRADE, MITI Media Release 4 June 2007

Table 2: The Contribution of mining (RM million) 2000-2006.

Year	Overall export	Mining exports	% con-tribution	Overall import	Mining imports	% con-tribution
2000	308,935	15,015	4.8	230,610	30,972	13.4
2001	334,283	14,722	4.4	280,229	28,751	10.2
2002	357,430	14,591	4.0	303,090	29,477	9.7
2003	398,881	17,593	4.4	317,746	30,261	9.5
2004	480,740	23,228	4.8	400,076	49,609	12.3
2005	533,789	27,922	5.2	434,029	51,551	11.8
2006	588,965	34,866	5.9	480,772	60,661	12.6

Source: MINTRADE 2006 (p), MATRADE

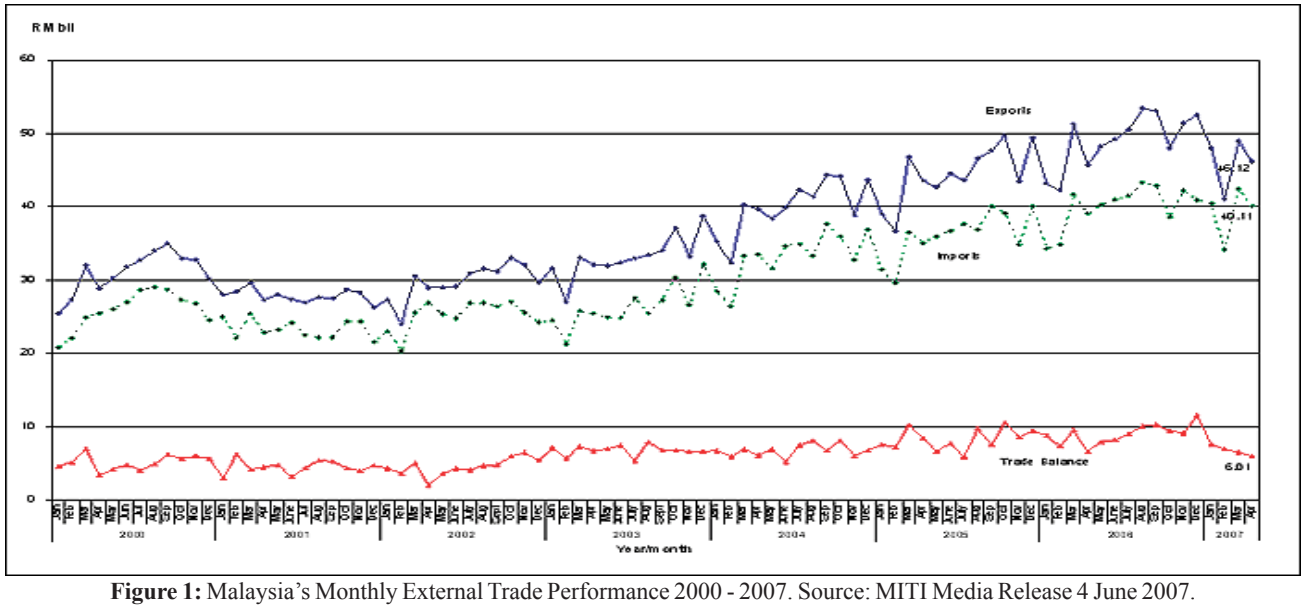

Figure 1: Malaysia's Monthly External Trade Performance 2000 - 2007. Source: MITI Media Release 4 June 2007.

Table 3: Mining activities and environmental impacts.

Phase	Activities	Environmental Impact
Exploration	• covers large areas and involves processes such as satellite imaging, geological mapping, geochemical and geological sampling • usually carried out with small equipment	**Unlikely** • if they occur, are easily remedied and mitigated later by general rehabilitation and re-vegetation of the area.
Development	• Installations and building of infrastructure • Installations of processing plants.	**May be serious** • depending on the size of the installation and the building techniques used
Exploitation	• extraction of ores through superficial trenches that cause geological and visual disfigurement • mining operations generate dust particles as a result of dynamiting, crushing, loading and transportation of ore	**Most serious impact** • Impacts arise mainly from solid residues. Water interacting with the residues may give rise to acid waters (sulphuric acid) that can contaminate drinking water and surrounding ecosystems.
Processing	Extraction of metals can be done in three ways, or by a combination of methods: • Hydrometallurgical processing - uses liquids and lixiviation with sulphuric acid. • Pyrometallurgy - uses dry processing at temperatures between 100°C and 3,000°C and includes calcination and fusion; associated emissions of sulphur compounds, particulate matter and arsenic. • Electrometallurgical processing - uses electricity to separate metals from the other associated materials.	**Arsenic impact** - the most significant environmental impacts. Revolve around the generation of: • solid residues (various solids, acidic sludge and toxic residues) • liquid residues (acidic water, tailings) • emissions of gas (particulate matter, toxic and reactive gases) and noise.
Closure and rehabilitation	• Underground mines are usually sealed; surface mines undergo a process of rehabilitation, regrading, stabilization and revegetation.	• Acid leaching • Subsidence • Aesthetic impacts.

Table 4: Dispute settlements cases under NAFTA.

Sued by	Party Sued	Dispute Matter	Settlement Value $US
Methanex Corp, Canada	USA	California phased out a chemical additive that contaminates the groundwater	970 mil
Ethyl USA	Canada	Canada banned a chemical that causes global warming and neurotoxin	250 mil
Crompton USA	Canada	Canada restrict a chemical lindane (possible carcinogen trigger)	100 mil
Galmin Gold Canada	USA	California regulation requires backfilling and restoration of open pit mines that would damage Native American sacred sites	50 mil
Metalcald USA	Mexico	A Mexican municipality refuse to grant a construction permit for a toxic dump and the governor's declaration of an ecological preserve surrounding the site.	90 mil
SD Myers USA	Canada	Canada put a temporary ban on harzardous PCB exports.	20 mil

Source: WTO

under the Environment Quality Act (1974) and apply to the mining sector. National minerals and mining regulations affecting the availability and use of lands have significant implications for whether or not the mineral resources are developed. The rules and regulations (regulated by the Minerals and Geoscience Department or other government agencies) that applies to the Malaysian mining industry are listed in Appendix 1.

Under the current Laws of Malaysia, the mining sector allows a hundred percent (100%) foreign equity participation, subject to regulations and approval by the relevant State Mineral Enactment. Other than the regulations outlined above, there are also mining services pertinent to the industry. Appendix 2 list the mining services and services incidental to mining included in the chapters of Services and Trade in many trade negotiations.

Currently all trade negotiations have provisions in the Environment and Investment Chapter which have a serious implications for environment policy and measures. As a result, environmental rules and regulations taken by the Malaysian government to protect the environment may be challenged as `expropriation', which is defined as leading to an obligation to compensate the foreign investors and/or change the Malaysian laws and regulations.

According to the trade rules, if the government chose not to pay the compensation due, the foreign investor may apply to impose tariffs on Malaysian export. A foreign-owned company operating a local mine has every right to exploit and explore as it deemed necessary. Some environmental regulations seen as an obstacle to the mining operations may be used by the company to apply for a dispute settlement on grounds that illegitimate trade barriers is being imposed on them (United Nations, 1999). The company may then apply that an export tax be imposed on Malaysian export of mineral-products related or demand for compensation. Malaysia may be subjected to a dispute case settlement,

even though some regulations were initially intended to protect our environment.

Table 4 highlighted several case examples pertaining to dispute settlements under the North America Free Trade Areas (NAFTA) and the settlement amount.

Not all of the trade dispute cases have been in favour of the foreign investor. However, it indicates the possible ways that companies may use the Investment and Environment Chapters of an FTA to challenge the domestic environmental measures. In cases when the company chose not to sue, the mere threat of legal action may be enough to prevent governments from carrying out policies that are put in place to protect the environment.

Trade liberalization had given foreign investors a strong right and Malaysia's trade negotiation and subsequent agreement with any economy pose this threat. For a developing country like Malaysia, several questions warrant further discussion. Is Malaysia ready to implement and enforce all its environmental rules and regulations? To what extent do we go about implementing the environmental laws at the expense of free trade or vice versa? Is the mining industry at risk?

There have been reports on questions and sceptisicm over Malaysia's abiity to fulfil its obligations under Multilateral Environment Agreements (MEAs) such as those listed below, of which many developed countries (including the USA) are not party to. Some of the agreements include:

- Convention of Biological Diversity (CDB)
- Cartegena Protocol on Biodiversity
- Kyoto Protocol to the United Nations Framework Convention on Climate Change
- Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal.

According to a report by a non-gevernmental organization, if Malaysia's obligation under an MEA continues expropriation, Malaysia will face the insidious choice of violating its MEA obligation or having to pay compensation at market value including interest at a commercial rate. Under WTO, all trade agreements signed so far have provisions which still require environmental measures to be consistent with the investment chapter.

Under the WTO, should Malaysia fail to implement and enforce any of its legal regulations, there is ground for dispute as we are party and signatories to the Kyoto Protocol and several other Environmental Laws and Treaties. For example, if Malaysia is caught not enforcing its Environmental Impact Assessment (EIA) under the Environmental Quality Act in a mining project, it is considered as flouting the Kyoto Protocol agreement, hence legal actions could be brought against Malaysia. Is the mining industry and Malaysia ready and capable of implementing and enforcing all our environmental laws?

CONCLUSION

Based on the experience in the mining sector in Malaysia, trade liberalization has undeniably influenced the direction and growth of the mining industry, resulting in environmental impact (Hufbauer & Kotschwar, 1998).

Concurrently, trade liberalization may also encouraged transfer of more environmentally effective management practices and technologies to deal with the emerging environmental impacts. Improved environmental regulation, management and technologies are allowing reduction of the negative environmental effects of mining activities per unit of production, thereby offsetting part of the effects of growth.

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APPENDIX 1
Rules and regulations applicable to the Malaysian mining Industry

Federal Constitution 1957 – Federal Constitution (modification of Laws) (supplementary) Order, 1959
Mineral Development Act 1994 (and its regulations)
State Mineral Enactments (and its regulations)
State Mining Enactment Cap 147
Sarawak Mining Ordinance
Sabah Mining Ordinance
States Quarry Rules
Geological Survey Act 1974
Mineral Ore Enactment Cap 148
State Gold Buyers Enactments
Tin Control Ordinance 1954 (Rev. 1988) – Tin Control Regulation 1988
Assignment of Revenue (Export Duty on Iron Ore) Act, 1962
Assignment of Export Duty (Mineral Ores) Act, 1964
Land and Mining Plans and Documents (Photographic Copies) 1950 (Rev.1980)
Continental Shelf Act 1966
Exclusive Economic Zone Act 1984
Dangerous Trades Cap 91
Mining Beneath Alienated Land enactment 1941
National Land Code 1965 (for Peninsular only)
Petroleum Mining Act 1966 (Rev 1972)
Petroleum Development Act 1974
Petroleum (Safety Measures) Act 1984
National Forestry Act 1984
Environmental Quality Act 1974
Engineers Registration Board
Explosives Act 1957
Occupational Health and Safety Act
Atomic Energy Licensing Act 1984
Factory and Machinery Act 1967
Land Ordinance Cap 68 (Sabah)
Land Code 1958 (Sarawak)
Sabah Forest Enactment 1968
Sarawak Forest Ordinance 1958
Sabah Environment Protection Enactment 2002
Sarawak Natural resources and Environment Ordinance 1958
ongoing – Geologist Bill
ongoing – Mineral Development Board Bill

APPENDIX 2
Malaysia's services incidental to mining

	CPC Code	Subsector	Detail
A	51110	Site Investigation work for construction project	Engineering geological studies & terrain geological mapping
B	51150	Site preparation for mining	Tunelling, overburden removing & site preparation
C	51360	Construction for Mining and Manufacturing	Construction work for mining & manufacturing
D	51390	Engineering Works	Mine site construction
E	51520	Water Well Drilling	Drilling or digging water well, installation & repair work of water well pumps and well piping system
F	86751	Related Scientific and Technical Services	Geological, Geophysical and other scientific prospecting services (locating of mineral deposits or ground water)
G	86752	Subsurface Survey	Seismic
H	86753	Interpretation of Images	Remote sensing, photogrammetric, sub-bottom profiling
I	86754	Map Making Services	Geological map, hydrographic map, geochemical map, geophysical map, hydrogeological map, terrain geological map, engineering geology map
J	86761	Composition and Purity Testing and Analysis Services	Testing & analysis of chemical properties of air, water, metals, soil, minerals
K	86762	Composition and Purity Testing and Analysis Services	Testing & analysis of physical properties of metals or rock: strength, ductility, radioactivity, conductivity, tension, hardness, impact resistance
L	91133	Administration for: Development and monitoring for	Mining, Mineral resources, discovery, exploitation, mineral production, regulation for prospecting, mining & safety standards

Source: MITI

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