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Allan Ingelson, William Holden, & Meriam Bravante

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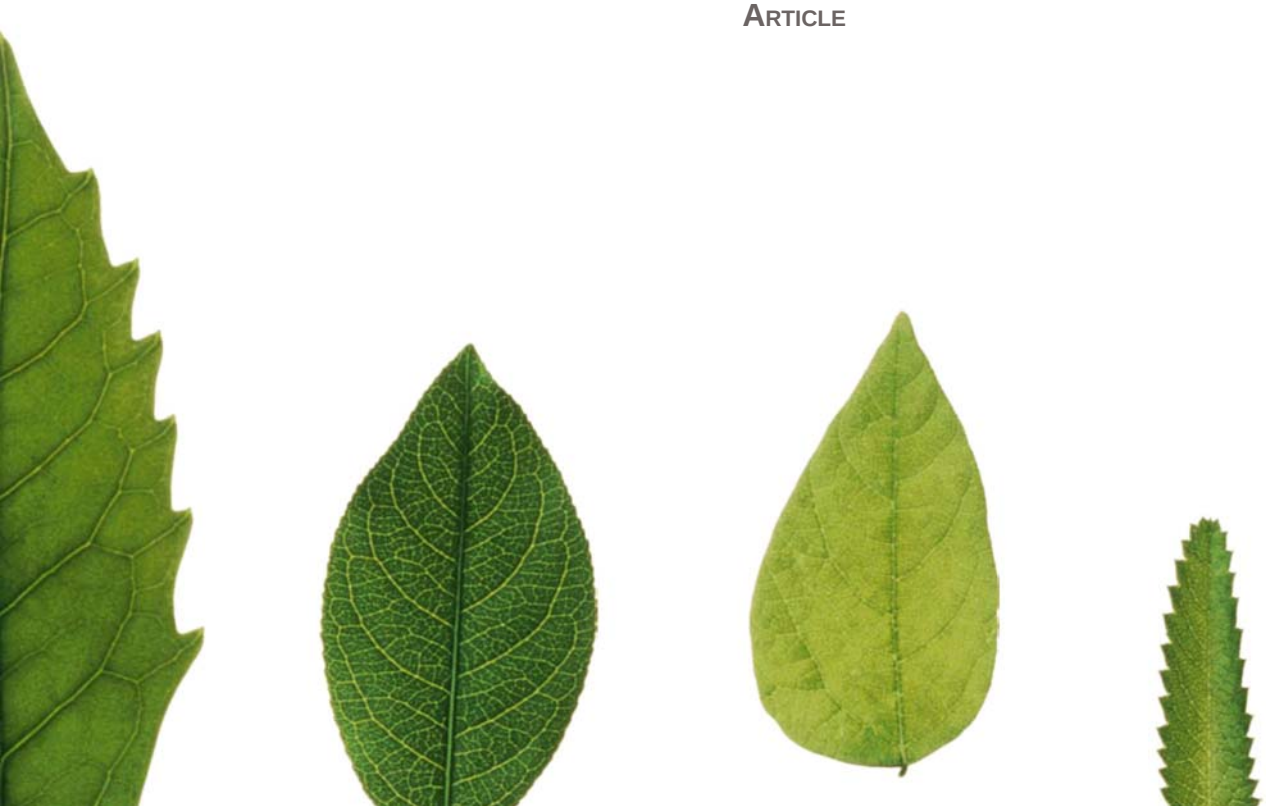

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Article

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Allan Ingelson, Associate Professor, Faculty of Law, University of Calgary, 2500 University Dr. N.W., Calgary, Alberta Canada T2N 1N4, (403) 220-8302, Email: allan.ingelson@haskayne.ucalgary.ca

William Holden, Assistant Professor, Dept. of Geography, University of Calgary, Calgary, Alberta Canada, Email: wnholden@ucalgary.ca

Meriam Bravante, Graduate, Ateneo de Davao College of Law; former staff member Legal Rights and Natural Resources Center, Philippines, 1998-2007

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1 BACKGROUND AND MINE IMPACTS

What is 'genuine development' in the context of the environmental impact assessment (EIA) for mines proposed to be developed in the Philippines? This article examines the EIA process, related legislation, administrative and judicial decisions. The Philippine EIA system will be compared with the U.S. National Environmental Policy Act (NEPA),[1] and the American experience with mining. In light of the prevailing economic development paradigm in the Philippines we submit that the EIA system only superficially considers proposed mining projects and does not promote genuine development. We provide recommendations to improve the EIA system to facilitate genuine development.

The Republic of the Philippines is one of several countries in the 'developing world' characterised by an 'underperforming economy'.[2] The country is well endowed with minerals. However by the early 1990s the ability of the mining industry to facilitate economic growth was considered to be underutilised and the government is heavily indebted to foreign creditors.[3] The Asian Development Bank criticised the investment climate in the Philippines and called for a liberalisation of its investment laws for mineral development.[4] President Fidel V. Ramos signed into law the Mining Act of 1995,[5] that contained several incentives to encourage mineral development including: a four year income tax holiday; tax and duty-free capital equipment imports; value-added tax exemptions; income tax deductions where operations are posting losses; accelerated depreciation; and guarantees of the right of repatriation of the entire profits of the investment as well as freedom from expropriation.[6] From 1994 to 1996 the number of foreign mining companies in Philippines increased by four hundred per cent. In 2007, the Chamber of Mines predicted that investment in the mining industry would reach $10 billion by 2010.[7]

Metal extraction and processing can cause environmental impacts including wildlife and fisheries habitat loss, changes in water quality, sedimentation, toxins in tailings ponds and effluent, acid generation, dust, and slope.[8] In 1996 at the Marcopper mine on the island of Marinduque a plug at the bottom of a copper pit failed and released acidic tailings into the Boac River that prompted a UN team to declare the river to be 'biologically dead' a month later.[9] In 2005, two cyanide spills were reported in less than one month in coastal waters near the Rapu Rapu Mine, Philippines.[10] Mine sites in other countries at which cyanide contamination has caused significant negative environmental impacts include Baia Mare, Romania, Summitville, Colorado, Grouse Creek, Idaho, and Gilt Edge, South Dakota, U.S.A.[11] Acid mine drainage continues to cause long term environmental impacts in Europe, including mines operated during the time of the Roman Empire.[12]

1 National Environmental Policy Act, 1969, United States, 42 U.S.C.A. § 4321-4370 (d) (West 1994) [hereafter NEPA].

2 R. Auty, 'Industrial Policy Reform in Six Large Newly Industrializing Countries: The Resources Curse Thesis', 22 *World Development* 1, 11-26 (1994).

3 World Bank, World Development Indicators 2007 (Washington, DC: World Bank, 2007).

4 R. Rovillos et al., 'When the Isles of Gold Turn to the Isles of Dissent', *in* Emily Caruso et al., eds, *Extracting Promises: Indigenous Peoples, Extractive Industries and The World Bank* 200-238 (Baguio City: Tebtebba Foundation, 2003).

5 Mining Act, 1995, Philippines, Republic Act No. 7942, 3 March 1995.

6 United States Geological Survey, Minerals Yearbook 2005 (Reston, VA: United States Geological Survey 1995).

7 'Mine Group Sees Investment Growing to $10B by 2010', *Philippine Daily Inquirer*, 30 May 2007, page B1-B2.

8 G. Burke, 'Opportunities for Environmental Management in the Mining Sector in Asia', 15(2) *The Journal of Environment and Development* 224 (2006); M. Bacsujlaky, Examples of Modern Mines that Damaged Rivers and Fisheries, 2004, available at http://www.wman-info.org/resources/technicalreports/MinesRiversFish.pdf and K. Smith, 'Acid Rock Drainage', *in* L. Price et al., eds., *Mining in New Mexico, The Environment, Water, Economy and Sustainable Development* 59-63 (Sorroco: NM Bureau of Geol. and Min. Res., 2005).

9 Geoffrey Plumlee et al., An Overview of Mining-Related Environmental And Human Health Issues, Marinduque Island, Philippines: Observations From a Joint U.S. Geological Survey - Armed Forces Institute of Pathology Reconnaissance Field Evaluation, 12-19 May, 2000.

10 'Manila Fines Lafayette', *Mining Journal*, 13 January 2006.

11 *See* Bacsujlaky, note 8 above.

12 *Id.*

2 GENUINE DEVELOPMENT AND SUSTAINABILITY

Genuine development reflects sustainability. Sustainable development requires consideration of the economic, social and environmental benefits and costs from mining projects, and planning to mitigate negative impacts. At the Stockholm Conference on the Human Environment in 1972, the legal implications of managing resources and the environment were discussed.[13] A World Conservation Strategy was developed in 1980 by the International Union for the Conservation of Nature, the UN Environment Program and the World Wildlife Fund. In 1987, the World Commission on Environment and Development proposed a form of 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.[14] The proposed objectives of sustainable development include promoting economic growth consistent with rational energy use and minimising negative environmental impacts; provide the current generation with employment and basic needs such as food, clean drinking water and sanitation; integrating economic and environmental decision-making processes and considering the needs of future generations. This paradigm for development prompts governments to ensure that each generation passes on to the subsequent generation an environment in no worse condition than what was inherited. The environmental impact assessment process is crucial in facilitating this sustainability objective. Unlike conventional economic development, sustainable development focuses on the quality of development and the needs of future generations rather than just economic growth:

> '…It requires a change in the content of growth…Sustainability requires views of human need and well-being that incorporate such non-economic variables as education and health enjoyed for their own sake, clean air and water and the protection of natural beauty'.[15]

This anthropocentric view of the paradigm for development focuses on protecting human health by governments adopting a more cautious approach (the precautionary principle) to the regulation of mining, an activity that can have significant health and environmental impacts. Sustainable development can minimise environmental degradation by imposing an obligation on polluters to pay for the environmental damage caused by their activities. This includes mitigating the negative environmental and social impacts from mining described later in this article. Sustainable development challenges governments such as the Philippine Government and mine developers, to consider and plan for the needs of both current and future generations by protecting renewable natural resources such as water, soil and air, and conserving non-renewable mineral resources.[16] As stated by the United Nations:

> '…natural resources of the earth…must be safeguarded for the benefit of present and future generations through careful planning and management….Non-renewable resources must be used in such as way as to guard against the danger of future exhaustion…Planning must be applied to human settlement with a view to avoiding adverse effects on the environment and obtaining maximum social, economic and environmental benefits for all'.[17]

In 1990, sustainable development was described as an 'emerging cluster of policies' under which governments 'manage the use of the earth's environment and natural resources to ensure the optimal level of sustainable benefits for present and succeeding

13 P. K. Rao, *Sustainable Development Economics and Policy* 8 (Malden, USA & Oxford, UK: Blackwell Publishers, 2000).

14 U.N. General Assembly Resolution 42/427, Report of the World Commission on Environment and Development: Our Common Future, UN Doc. A/RES/42/427 (1987) [hereafter the World Commission].

15 *Id.* at 52-53.

16 As non-renewable resources such as minerals have a finite volume, it is more accurate to refer to mineral development as quasi-sustainable.

17 Report of the United Nations Conference on the Human Environment, Stockholm, UN Doc. A/CONF.48/14 and Corr.1 (1972).

generations'.[18] Sustainable development may be characterised as a concept, environmental philosophy, process, guiding principle, or a combination of the above. To date, there is no international consensus on the exact meaning of the term. The vagueness and flexibility of the concept in part explains its popularity with governments and regulators:

> 'The concept has been approved by governments and agencies all over the world, most frequently in political and policy statements and occasionally in environmental legislation….Its ambiguity is probably one reason for its popularity with governments, institutions and industries; it is capable of being supported by agencies with vastly different goals. It is sufficiently flexible to allow a wide variety of policy decisions from a given set of facts. It combines environmental, social and economic concerns but does not prioritize them in the case of conflict; it does not establish an environmental bottom line'.[19]

The law reform project 'Legislative Options for Promoting Sustainable Development', identified the following principles that characterise a regulatory system that reflects sustainable or genuine development:

1. respects ecological integrity;
2. supports efficient use of natural, manufactured and social capital;
3. promotes equity;
4. relies on participatory approaches; and
5. requires environmental stewardship by all levels of decision-makers.[20]

The first principle, respect for ecological integrity, is critical to promoting sustainable development. Ecological systems consist of micro-organisms, plants, animals, soil, water, air and other components. Respect for ecological integrity is demonstrated by a legal system that prevents irreversible harm to water, air, and soil resources, and enables 'ecosystems to renew themselves'.[21] Life-support systems such as air, water, soil, and diverse plant and animal species must be protected to sustain current and future generations. Even though ecological integrity has global connotations, local, regional and national action by governments such as the Philippine Government is important in demonstrating respect for ecological integrity. A planning framework is important to facilitate respect for ecological integrity.

The efficient use of capital recognises that there are different types of capital - natural, manufactured and social. Natural resources such as water, soil, air, vegetation, wildlife are characterised as natural capital. Manufactured capital includes the roads, power lines, equipment and other types of infrastructure created in the development of mines. Social capital consists of the knowledge and skills acquired by workers in the mining industry. When natural resources such as wildlife, soil and vegetation are depleted due to the environmental impacts from mining operations, there is a loss of natural capital. At the same time infrastructure development will increase manufactured capital, and the knowledge and skills acquired by workers in the mining industry will increase the amount of social capital. To promote genuine development a balance needs to be achieved so that natural capital is not significantly depleted and the increase in manufactured and social capital will compensate for the loss in natural capital, to provide future generations with sufficient capital to satisfy their needs. Efficient use of capital is suggested by preventative waste management, full-cost accounting with the 'polluter pays' principle, and the precautionary approach.[22] As provided in the Rio Declaration on Environment and Development, 'where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental

18 N. Robinson, 'Sustainable Development: An Introduction to the Concept – A Legal Perspective on Sustainable Development', *in* J. O. Saunders ed., *The Legal Challenge of Sustainable Development* 16 (Calgary: Canadian Institute of Resources Law, 1990).

19 B. Pardy, *Environmental Law: A Guide to Concepts* 267 (Toronto: Butterworths, 1996).

20 J. Moffet and F. Bregha, 'The Role of Law Reform in the Promotion of Sustainable Development', 6(1) *Journal of Environmental Law and Policy* 13 (1996).

21 IUCN, UNEP and WWF, *Caring for the Earth: A Strategy for Sustainable Development* 9 (Oxford: Oxford University Press, 1992).

22 *See* Bacsujlaky, note 8 above at 6-9.

degradation'.[23] The efficient use of capital facilitates the preservation of options for future generations by emphasising the protection, conservation and efficient use of a variety of non renewable and renewable natural resources including metals, water, vegetation and wildlife.

The third principle, equity, contemplates a wide distribution of the costs and benefits from natural resource development on an intra-generational, inter-generational and international basis. What is equitable is of course a value judgment, but the idea is that a broad distribution of the costs and benefits will minimise social conflict.

Public participation, the fourth principle, an integral part of the environmental impact assessment process refers to the opportunity for concerned citizens to express their views on natural resource development. Information contributed by concerned citizens and environmental groups can lead to better informed decisions and may result in reduced environmental degradation. Participation in the decision-making process may reduce social conflict. After stakeholders have had the opportunity to express their opinions they may be more inclined to accept the final outcome decided by the regulators, as they have had the opportunity to express their views.

The fifth principle, stewardship, requires a broad awareness of the objectives of sustainable development by government decision-makers, corporations and individuals and a concerted action to implement sustainability. To effectively implement genuine development a government should have the broad support of industry and citizens:

> 'In order to be implemented effectively, the objectives of sustainable development must be widely shared; all decision-makers must desire and know how to act in accordance with the basic principles outlined above. This requires that governments promote support for sustainable development through leadership by example and through education'.[24]

A comprehensive international study on mining and sustainability released in 2002, has confirmed that respect for ecological integrity, efficient resource use, the equitable distribution of the costs and benefits from mineral development, stakeholder participation and stewardship are important elements in sustainable development.[25] In 1992 at the Earth Summit, Philippines 'pledged to pursue sustainable development as embodied in Agenda 21, and subsequently the Philippine Government created the Philippine Council for Sustainable Development'.[26] Chapter 8B of Agenda 21 indicates that 'an effective legal and regulatory framework' is essential to balance environmental and economic development goals in national policies.[27] The incorporation of the above five sustainability principles into the Philippines impact assessment regulatory process is important to facilitate genuine development. In 2002, at the New Delhi summit, in addition to the duty to facilitate sustainable use of natural resources and the eradication of poverty, the importance of public participation and the precautionary principle (that we shall consider in the context of tailings spills) were again recognised to be important sustainability principles.[28]

Political, economic, social, and legal forces influence progress toward genuine development. In regard to the role of law, Professor Phil Elder noted that the there are limits on the extent to which a legal system can promote sustainable development as the law tends to be goal implementing rather than goal driving.[29] However, as Professor Owen Saunders concluded in his analysis of the role of law in facilitating sustainable development, 'Law is a force in itself, capable equally of promoting values that will preserve and protect the environmental interests of future generations or of insisting on the economic interests of the present society, regardless of the cost to those who follow'.[30]

23 *See* Principle 15 in the Report of the United Nations Conference on Environment and Development, Rio de Janeiro, UN Doc. A/CONF.151/26/Rev.1 (1992).

24 *See* Bacsujlaky, note 8 above at 12.

25 International Institute for Environment and Development and World Business Council for Sustainable Development, Breaking New Ground: Mining, Minerals, and Sustainable Development (London: Earthscan Publications, 2002).

26 *See* Center for Alternative Development Initiatives, Philippine Agenda 21, available at http://www.cadi.ph/philippine_agenda_21.htm.

27 *See* Agenda 21, *in* Report of the United Nations Conference on Environment and Development, Rio de Janeiro, UN Doc. A/CONF.151/26/Rev.1 (Vol. 1), Annex II (1992).

28 ILA Resolution 3/2002, New Delhi Declaration of Principles of International Law Relating to Sustainable Development, Report of the 70th Conference, New Delhi, 2002.

29 P.S. Elder, 'Sustainability' 36 McGill L.J. 831, 838 (1991).

30 J. O. Saunders ed., *The Legal Challenge of Sustainable Development* 2, 16 (Calgary: Canadian Institute of Resources Law, 1990).

3 ENVIRONMENTAL IMPACT ASSESSMENT AND MINING

Notwithstanding extensive discussion of sustainable development in the literature, there has been limited commentary by scholars on mining and sustainability.[31] In light of the pro-development policy of the Philippine Government that encourages foreign investment in the mining sector, sustainability should be considered in a local, regional, national and global context.[32] Given the emphasis placed on base and precious metals mining as a vehicle for economic development by the Philippine government, and the inherent potential for environmental and social impacts for genuine development to occur, mining projects should be subjected to a more rigorous environmental impact assessment (EIA) process. The importance of a comprehensive EIA process is underscored by the unique vulnerability of a 'resource rich' country that is environmentally fragile.[33] EIA is 'a process for identifying and considering the impacts of an action'. It is 'not about rejecting development; rather it is about making sure that development proceeds with full knowledge of the environmental consequences'.[34] It is widely used as a tool for environmental management by numerous governments often based on process created under the U.S. National Environmental Policy Act of 1969 (NEPA).[35] Section 102(2)(C) of NEPA, requires environmental values to be considered by U.S. federal regulatory agencies for projects which have significant environmental impact,[36] and compels the preparation of a written, detailed study and explanation of the negative environmental and social impacts for consideration by stakeholders including the public.[37] However, a discussion of the social impacts of mining in the Philippines is beyond the scope of this article.[38]

Section 102(2)(C) of NEPA provides that an environmental impact statement (EIS) is to include:

> in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on:
>
> (i) the environmental impact of the proposed action,
>
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
>
> (iii) alternatives to the proposed action,
>
> (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
>
> (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

The EIS is intended to provide useful information to stakeholders to facilitate feedback from those most affected by a proposed project so that regulators can plan to mitigate negative environmental and social impacts before they arise.[39]

31 R. Collin, 'Review of Legal Literature on Environmental Racism, Environmental Equity and Environmental Justice', 9 *L.J. & Litig.* 121, 143 (1994) and J. Otto and J. Cordes, *The Regulation of Mineral Enterprises: A Global Perspective on Economics, Law and Policy* (Westminister, Colorado: Rocky Mtn Law Fdn., 2002).

32 G. Gallopin and P. Raskin, *Global Sustainability: Bending the Curve* 4-7 (London: Routledge, 2002).

33 E. E. Yates, 'Public Participation in Economic and Environmental Planning: A Case Study of the Philippines' 22 *Denver J. of Int'l L. & Policy* 107 (1993).

34 K.S. Hanna, 'A Brief Introduction to Environmental Impact Assessment', *in* K.S. Hanna ed., *Environmental Impact Assessment Practice and Participation* 3 (Toronto: Oxford University Press, 2005).

35 *See* NEPA, note 1 above at §§ 4321-4370 and L. Ortolano and A. Shepard, 'Environmental Impact Assessment: Challenges and Opportunities', 13 *Impact Assessment* 231 (1995).

36 *See* NEPA, note 1above at § 4332.

37 *Id.*

38 For a discussion of the social impacts from mining in the Philippines, *see* W. Holden, 'Indigenous Peoples and Non-Ferrous Metals Mining in the Philippines', 18 *The Pacific Review* 417 (2005).

39 William Ross, 'Environmental Impact Assessment in the Philippines: Progress, Problems and Directions for the Future', 14 *Environmental Impact Assessment Review* 217 (1994).

In 1977, President Marcos issued a Presidential Decree No.1151 that required an Environmental Impact Statement (EIS) to precede all actions, projects, or undertakings which may significantly affect the quality of the environment.[40] Another Presidential Decree No. 1586 was issued in the following year authorising the Minister of Human Settlements to name the lead agency responsible for undertaking the preparation of an EIS for 'environmentally critical projects' and projects located in 'environmentally critical areas'.[41] No project deemed to be either an environmentally critical project, or one located in an environmentally critical area, could proceed without first submitting an EIS. Upon review and approval of the EIS, the President (or his duly authorised representative) would then issue an Environmental Clearance Certificate (ECC) and only then, could the project proceed.[42] In 1981, Presidential Proclamation No. 2146 specified those activities that would constitute environmentally critical projects and environmentally critical areas. Major mining projects are cited as environmentally critical projects in Proclamation No. 2146.[43] The Environmental Management Bureau (EMB), of the Department of Environment and Natural Resources (DENR), administers the EIA system and has issued Administrative Orders (AOs), including DENR AO 2002-42 and 2003-30 which have determined the nature of contemporary EIAs.

To secure an ECC for a proposed mine, the proponent consults with the EMB. The Bureau decides whether the mine is an environmentally critical project and whether it is located in an environmentally critical area.[44] The southeastern Mindanao Protected Areas and Wildlife Bureau Director Emmanuel Isip reported that mining projects are always considered to be environmentally critical.[45] If the proposed mine is not situated in an environmentally critical area, the regional EMB office will conduct the EIA for the project; if the proposed mine is in environmentally critical area, the EMB office in Manila performs the EIA.[46] After determining which EMB office is responsible for the EIA, the EMB creates an Environmental Impact Assessment Review Committee (EIARC) to conduct a 'scoping' exercise that involves public hearings, to determine the probable environmental impacts.[47] At the conclusion of the scoping exercise[48] the proponent prepares and submits its EIS to the EMB and the regulator is provided 120 days to review the EIS.[49] The EMB frequently holds public hearings during this period to listen to concerned members of the public,[50] and may make written requests to the project proponent for additional information. Only two requests for additional information are allowed and the requests may only be made during 90 days in the 120-day examination period.[51] If the project proponent cannot comply with the request for information from EMB, the responsible authority (Regional Director or EMB Director) is to make a decision based on whatever information is available to satisfy the 120-day time limit.[52] At the end of the examination period the EIS will be deemed approved unless expressly rejected by the EMB, and the ECC is issued. The EIA process is designed to be completed in the minimum time with inconvenience to the mineral developer.

Our attention now turns to eight specific elements of the Philippine EIA process based upon their importance in the environmental assessment literature, their overall importance in evaluating the environmental impacts from projects in the context of genuine development. Environmental assessment can be used 'as a sustainability instrument'; however, as Clive George noted, indicators of sustainable development need to identified and applied by the government in the project

40 Presidential Decree 1151.

41 *See* Research & Policy Development Team, 'The More They Stay the Same: Recent Developments in the EIA System', 8 *Philippine Natural Resources Law Journal* 49-74 (1997).

42 *See* Ross, note 39 above.

43 *Id.*

44 Environmental Management Bureau (EMB), Revised Procedural Manual, 2005, Table 1-4 and Annex 2-1a.

45 Interview: E. Isip, Director Southeast Mindanao Protected Areas and Wildlife Bureau, Department of Environment and Natural Resources in Davao City, Philippines (3 June 2005) [hereafter Isip Interview].

46 *Id.*

47 *See* EMB, note 44 above.

48 There is no set time period for scoping in the regulations governing the Philippine EIA system. At the Palawan Nickel Project, for example, the scoping exercise took approximately two months.

49 Philippines, Department of Environment and Natural Resources (DENR), AO 2002-42, Section 2.

50 *See* Isip Interview, note 45 above.

51 Philippines, DENR AO 2003-30, Section 5.2.

52 *Id.*, Section 8.2.3.

approval process.[53] Intergenerational equity and intra-generational equity are 'pillars' of sustainable development to be considered in the development and adoption of the sustainability indicators.

The elements to be considered include the approach to evaluation of impacts, consideration of project alternatives, the approach to cumulative effects from mining, the degree of public participation, accountability, scope for appeals, the time allowed to consider EIA inputs, and reclamation requirements.

3.1 Evaluation of Impacts

Mines in the Philippines cause environmental impacts which include immediate impacts on the biophysical environment such as land disturbance and water contamination, and more remote impacts such as loss of biodiversity and the displacement of indigenous inhabitants. For genuine development an EIA process must broadly consider the environmental, human and biophysical impacts. DENR AO 2003-30 provides for an assessment of direct and indirect project impacts on the biophysical and human environment[54] and states that the purpose of an EIA is to 'protect the environment and the community's welfare'.[55] However the Executive Director of the Haribon Foundation, a nongovernmental organisation (NGO), reported that the EIA process does consider a broad range of impacts but this often breaks down during the implementation stage.[56]

Mining can have substantial and far-reaching impacts on biodiversity.[57] To promote genuine development environmental impact analyses need to focus on species' habitats. The first major deficiency in the EIA system is the lack of attention to biodiversity. The Philippines has been recognised as a 'biodiversity hotspot',[58] with 8,500 plant species and 170,000 animal species.[59] The extinction of a single species is a loss of some natural resources and global biodiversity.[60] Nickel mining projects are slated in high biodiversity areas such as Dinagat Island, notwithstanding the Foundation for the Philippine Environment identified the area as a priority site for biodiversity conservation.[61] According to Executive Director Plantilla, the EIA system makes 'absolutely no effort to consider biodiversity'.[62] Attorney Grizelda Mayo-Anda, the Executive Director of the Environmental Legal Assistance Center (ELAC) reported that there was an endangered plant in an area scheduled to become a mine.[63] The engineers in charge of the project merely laughed at the suggestion that the project should not proceed because of the presence of a plant, and consistent with Executive Director Plantilla, attorney Mayo-Anda stated that in the Philippines, 'People in mining have no biodiversity perspective'. The EIA process often ignores provisions to protect endangered species in Wildlife Resources Conservation and Protection Act.[64] Clearly the failure to consider biodiversity in the EIA system indicates a lack of respect for ecological integrity and does not promote genuine development.

Another deficiency is the failure to respect ethno diversity. Globally there are conflicts between mine developers and indigenous peoples who reside where ore deposits are situated.[65] Mines are being developed in rural areas inhabited by indigenous peoples that engage in subsistence agriculture and fishing. Approximately two-thirds of the indigenous peoples are 'Lumads', and one third 'Igorots'.[66] The Executive

53 C. George, 'Testing For Sustainable Development through Environmental Assessment', 19 *Environ. Impact Assess. Rev.* 175-200 (1999). *See also* P. Bartelmus, 'Measuring Sustainability: Data Linkage and Integration', *in* B. Moldan and S. Billharz eds, *Sustainability Indicators: Report of the Project on Indicators of Sustainable Development* (UK: John Wiley and Sons, 1997) and H. Bossel, 'Finding a Comprehensive Set of Indicators of Sustainable Development by Application of Orientation Theory', *in* B. Moldan and S. Billharz eds, *Sustainability Indicators: Report of the Project on Indicators of Sustainable Development* (UK: John Wiley and Sons, 1997).

54 *See* DENR, note 51, Section 1(a).

55 *Id.*, Section 3(h).

56 Interview: Anabelle Plantilla, Executive Director of Haribon Foundation of Quezon City, Philippines (20 April 2005) [hereafter Plantilla].

57 *See* U.N. General Assembly Resolution 42/427, note 14 above at 260.

58 J. De Alban *et al.*, Analyzing Mining as a Threat to Forests and Sustainable Development (Quezon City: Haribon Foundation, 2004).

59 *See* Hanna, note 34 above.

60 *See* EMB, note 44 above.

61 *See* De Alban, note 58 above.

62 *See* Plantilla, note 56 above.

63 Interview: Grizelda Mayo-Anda, Executive Director of Environmental Legal Assistance Center of Puerto Princesa City, Philippines (21 April 2005).

64 *See* Philippines, Republic Act No. 9147.

65 S. Ali, *Mining, the Environment and Indigenous Development Conflicts* (Tucson, Az: University of Arizona Press, 2003).

66 *See* Bravante, note 38 above.

Director of Anthrowatch, reported that seventy percent of all indigenous communities represented by the NGO have experienced conflict with the mine developers.[67] The location of mines on ancestral domains has created substantial impacts on their traditional lifestyle and conflict when residents are displaced from ancestral lands. Indigenous peoples migrate to cities where they lack jobs, shelter, and basic services.[68] As noted previously genuine development promotes equity. Notwithstanding the danger to indigenous cultures, Mayo-Anda reports that the EIA process pays little attention to ethno diversity and that it is doubtful that the effects on indigenous people would be the basis for rejecting a mining project.[69]

In regard to potential impacts, the Philippine EIA system merely involves highly technical discussions of baseline conditions based on volumes of information.[70] The EIA process fails to address biodiversity[71] and ethno-diversity,[72] and there is substantial uncertainty as to what the impacts will be.[73] As Modak and Biswas have noted, 'Large verbose, complex reports are unnecessary, and can be counter-productive, as the findings from the EIA may not be in a form readily accessible and immediately useful to decision makers'.[74]

3.2 Project Alternatives

In 1998 Gupta and Asher reported 'In the Philippines, alternative project designs are not considered important'.[75] For genuine development to occur, the extent to which the EIA process considers alternatives to mitigate negative impacts is an important consideration.[76] An EIA should consider alternative means of carrying out the project including not proceeding.[77] Presidential Decree No.1151[78] requires an EIS to include 'a detailed statement' on 'alternatives to the project' but does not require consideration of the 'no-action' alternative. According to Plantilla, the EIA system allows for the identification of alternatives but since the proponent prepares the EIS, it usually only discusses the option preferred by the mine developer.[79] If the proponent does discuss alternatives, other than the one it prefers, such discussion is cursory at best.[80] Mayo-Anda also reported that consideration of alternatives is not observed by project proponents.[81] On rare occasions the EIA system has rejected unpopular projects.[82] According to Smith, from 1983 to 1990, the DENR only denied five applications for an ECC. Mayo-Anda suggests, 'that if the DENR had the will to reject projects, the system might be better'.[83]

3.3 Cumulative Effects

An assessment of the cumulative effects from several industrial projects is an important consideration in planning for genuine development. Cumulative effects assessment is the process in which the effects of the proposed mine are considered in conjunction with other activities in the general area. A regional concentration of mines will cause cumulative impact beyond those arising from a singe mine that can include water table draw down. When operations proceed beneath the water table, groundwater can flood of the open pit and workings. Pumping to facilitate mineral extraction can result in groundwater withdrawal and depletion of an

67 Interview: Teresa Guia-Padila, Executive Director of Anthrowatch of Quezon City, Philippines (22 April 2005).

68 R. Stavenhagen, Report of the Special Rapporteur on the Situation of Human Rights and Fundamental Freedoms of Indigenous People, UN Commission on Human Rights, Un Doc. 4/2003/90/Add.3 (2003).

69 *See* Mayo-Anda, note 63 above.

70 This process of engaging in voluminous, highly technical and descriptive discussions of the baseline conditions is something the NEPA regulations specifically direct agencies of the United States Government to refrain from doing. The NEPA regulations 40 CFR 1502.15 state: 'Verbose descriptions of the affected environment are themselves no measure of the adequacy of an environmental impact statement'.

71 *See* Plantilla, note 56 above.

72 *See* Mayo-Anda, note 63 above.

73 *Id.*

74 P. Modak and A. Biswas, *Conducting Environmental Impact Assessment For Developing Countries* 22 (Tokyo & New York: United Nations University Press, 1999).

75 A. Gupta and M. Asher, *Environment and The Developing World: Principles, Policies and Management* 240 (New York: Wiley, 1998).

76 *Id.*

77 NEPA Regulations, 40 CFR 1502.14(d): direct regulators to include the no action alternative in the EIS.

78 Section 4(c), Presidential Decree No. 1151.

79 *See* Plantilla, note 56 above.

80 *Id.*

81 *See* Mayo-Anda, note 63 above.

82 *Id. See also* Plantilla, note 56; Interview: Asis Perez, Senior Staff Lawyer of Tanggol Kalikasan of Quezon City, Philippines (20 April 2005).

83 *See* Mayo-Anda, note 63 above.

aquifer.[84] Negative groundwater impacts are intensified by several mines in an area and reduced stream flow that can reduce the volume of water available for agriculture. This is critical given the fact that seventy per cent of the income for poor rural residents is from agriculture and agriculture amounts to forty per cent of Gross Domestic Product.[85]

DENR AO 2003-30 alludes to cumulative effects,[86] but the EIA system 'routinely fails to consider cumulative effects'.[87] According to Attorney Asis Perez and Director Isip, in many cases the proponent does not adequately address cumulative effects in the EIS and the DENR itself lacks the capacity to consider cumulative effects.[88] Cumulative effects should be evaluated over time and the DENR lacks the resources to do this.[89] According to Mayo-Anda 'if cumulative effects were properly being considered, they would not be allowing mining on Palawan'.[90] Genuine development is characterised by the efficient use of different types of natural capital including water, vegetation and minerals. The failure of the EIA system to protect renewable resources such as water and crops is another example of a deficiency in the EIA process that does not provide for genuine development.

3.4 Public Participation

Genuine development requires a participatory approach in the EIA process.[91] Deficiencies in the public participation in the EIA process undermine genuine development.[92] DENR AO 2003-30 contains several provisions that provide for public participation.[93] Section 5.3 requires 'a public hearing as part of the EIS review' for metal mines unless 'otherwise determined by EMB'. However, Yates noted that the 'EIA system has generally excluded local citizens and officials, thereby omitting the participation of those who have the most relevant experience and knowledge concerning projects'.[94] He has also reported that in the Philippines, 'Public scrutiny makes government officials uncomfortable'.[95] The first problem with the EIA process can be attributed to the discretionary nature of public hearings. DENR AO 2003-30 states that public hearings are 'mandatory unless otherwise determined by EMB'.[96] This means that public hearings are held at the discretion of the EMB and it may, if it so desires, dispense with holding them. The second problem is the narrow definition of who may participate. 'Stakeholders' in DENR AO 2003-30, are defined as those 'who may be directly and significantly affected by the project or undertaking'.[97] Under this definition those indirectly affected by a project such as members of the local community, industry, local government units (LGU), non-governmental organisations (NGOs), may not participate in the consultation process. There has been a failure to distribute the EIS to members of the public for some projects as distribution of the EIS to the public for comments is not required.[98] Even though public hearings are held during the scoping session to identify probable environmental impacts, the law treats all environmental impact statements submitted to the government by the mining proponent as confidential; disclosure of such information is in the discretion of the Philippine government.[99] When copies of the EIS are released to the general public, they are written in English. The EMB will translate the EIS executive summary into a local dialect but frequently some of its meaning is lost during translation.[100] The implementing rules and regulations under the Indigenous Peoples Rights Act[101] require that,

84 *See* Smith, note 8 above.

85 Cristina David, 'Agriculture', *in* Arsenio M. Balisacan and Hal Hill eds., *The Philippine Economy: Development, Policies and Challenges 175-218* (Oxford: Oxford University Press, 2003).

86 DENR AO 2003-30, Sections 3(h), 3(p), 3(w), 4.3(a), and 5.2.1(e).

87 *See* Mayo-Anda, note 63 above.

88 Interview: Asis Perez, Senior Staff Lawyer, *Tanggol Kalikasan*, Quezon City, Philippines (20 April 2005) and Isip, note 45 above.

89 *Id.*

90 *See* Mayo-Anda, note 63 above.

91 *See* Ross, note 39 above.

92 L. Cooper and J. Elliott, 'Public Participation and Social Acceptability in the Philippine EAI Process' 2 *Jour. of Environmental Assessment Policy and Management* 339 (2000) and H. Welles, 'EIA Capacity-Strengthening in Asia: The USAID/WRI Model' 17 *The Environmental Professional* 103 (1995).

93 DENR AO 2003-30, Section 1(d), 1(f), 1(aa), and 5.3.

94 *See* Yates, note 33 above at 114-115.

95 *Id.* at 113.

96 DENR AO 2003-30, Section 5.3.

97 *Id.* Section 3(gg).

98 Compare this to the United States, NEPA Regulations, 40 CFR 1506.10 which require public distribution of the EIS and a *minimum* of 45 days for public comment.

99 DENR AO 97-24, Section 3.1.5.

100 *See* Cooper and Elliott, note 92 above.

101 Indigenous Peoples Rights Act, Philippines, Republic Act No. 8371.

when indigenous peoples are affected by a proposed project, the EIS is to be translated into their own language.[102] However the Director of Natripal, an advocate for indigenous people, documents are always written in English that creates problems for numerous indigenous people that experience difficulty in understanding a different language than their native tongue.[103] In addition, access to information is a perennial problem. 'It is hard for people affected by development plans to challenge those plans when developers and government agencies fail to supply them with detailed information'.[104]

The previously discussed Marcopper tailings spill has generated substantial concern among residents about the health and environmental impacts.[105] Now 'when a mining company just explores an area, people in the local communities already feel threatened'.[106] As residents have been denied information about the risks of proposed mines, awareness of the spill prompts opposition to other mining projects. As the international Mining, Minerals, and Sustainable Development project concluded, 'secrecy does not build trust'.[107] Following the principles of sustainable development for chemicals management such as the precautionary principle, proportionality and protective measures, prevention of environmental and social harm, the 'polluter-pays', public access to environmental information and public participation could address some of the resident concerns.[108] In his analysis of mining and sustainable development in the United States Dirk van Zyl notes 'Ultimately sustainable development is a concept of needs, an idea of limitations, a future-oriented paradigm, and a process of change. In contributing to sustainable development, mining companies need to consider the concerns of residents affected by mining, and the resource limitations on residents to participate in technical discussions that are part of the permitting process'.[109] For genuine development in the Philippines, the U.S. experience should be considered.

Isip has rated the quality of public participation in the Philippine EIA system as five on a scale from one to ten.[110] Mayo-Anda reported that the EIA framework is for notification rather than a genuine attempt to encourage public consultation and participation and there is no way it can influence the decision making process.[111] Attorney Augusto Gatmaytan, stated that 'it is one thing to be notified, it is another to be listened to; the government is going through the motions of having public participation'.[112] Gupta and Asher have noted that 'EIAs are incomplete if people whose lives are touched, by the project either beneficially or adversely, but are not given a chance to transmit their reactions'.[113] An increased level of public participation in the EIA system by a broader range of stakeholder can promote genuine development and reduce the level of mistrust regarding controversial mine proposals. 'One of the most certain routes to damage credibility and prompt unnecessary objections is the discovery by affected citizens that their opportunity for intervention has been preempted'.[114]

3.5 Polluter Accountability

An important problem with DENR AO 2003-30 is the removal of a prior regulatory requirement that all project proponents, and those preparing an EIS, declare, under oath (subject to prosecution for perjury in the event of a false statement), that all statements in the EIS are true.[115] The removal of this provision reflects the perception of the Philippine government that mine operators are environmentally responsible. In light of the Marcopper spill, this approach should be questioned. When queried about the Marcopper tailings spill and

102 NCIP AO 98-1, Section 6(b).
103 Interview: Dioesia Banua, Director of Natripal, Puerto Princesa City (25 April 2005).
104 Charlie Pye-Smith, *The Philippines: In Search of Justice* 27 (UK: Oxfam Publications, 1997).
105 IBON, *The State of the Philippine Environment* XVIII (Manila: IBON Books, 2006).
106 Environmental Science For Social Change, Mining Revisited 79 (Quezon City: Environmental Science for Social Change, 1999).
107 *See* U.N. General Assembly Resolution 42/427, note 14 above at 293.
108 G. Wiser and D. McGraw Jr., Principles and Approaches of Sustainable Development and Chemicals Management (Geneva: Centre for International Environmental Law, 2005).
109 D. van Zyl, 'Sustainable Development and Mining Communities', *in* L. Price *et al* eds, note 8 above at 133.
110 *See* Isip, note 45 above.
111 *See* Mayo-Anda, note 63 above.
112 Interview: Agusto Gatmaytan, Professor of Anthropology, Ateneo de Davao University, Davao City, Philippines (27 May 2005).
113 *See* Gupta and Asher, note 75 above at 239.
114 *See* Modak and Biswas, note 74 above at 170.
115 DENR AO 96-37, Article III, Section 9(i).

the potential for negative environmental impacts from mine operations, the Executive Director of the Palawan Council for Sustainable Development, replied that he 'is confident that technology will prevent any disasters'.[116] Grace Galiste, a mining engineer with the MGB, is of the view that mining companies have the 'skills, expertise, and resources to properly engage in large scale mining'.[117] Large foreign corporations, in particular can be trusted, because they are 'concerned about their reputation and do not want their reputation to be hurt as this will reduce opportunities for them to invest in the future'.[118]

3.6 Appeals

An important element of an EIA process that promotes genuine development is the ability to appeal decisions in the EIA process. Most scholars agree that statutory avenues of appeal are necessary to allow adequate public input to proposed developments which have a potentially detrimental impact upon the environment, and that this input often results in a better decision, and even a sense of community ownership of the solution.[119] Genuine development provides for the administrative or judicial review of some decisions in the Philippine environmental review process.

DENR AO 2003-30[120] provides for the possibility of an administrative review of the issuance of an ECC as the decision of an EMB regional office can be appealed to the EMB Director. The decision of the EMB Director can be appealed to the DENR Secretary, and a decision made by the DENR Secretary can be appealed to the President. The problem is that in practice, these provisions have been seldom used. Neither Director Isip nor Attorney Perez were aware of a successful administrative appeal of the issuance of an ECC.[121]

If all administrative appeals have been exhausted, Rule 65 of the Philippine Rules of Court can be relied on for a *certiorari*[122] application to review an ECC. In *Lipin Otadan et al. v. The Secretary of the Department of Environment and Natural Resources, the Environmental Management Bureau and Rio Tuba Nickel Mining Corporation*,[123] the Environmental Legal Assistance Center (ELAC) applied for a certiorari order to review the issuance of the ECC for the Rio Tuba Nickel Mining Project. The ELAC litigated the certiorari application all the way to the Philippine Supreme Court before, ultimately, losing.[124] Although judicial reviews of an ECC are possible, Mayo-Anda reported 'there must be more of an effort to enlighten the courts on how environmental laws are applied with respect to the EIA system; on Palawan the courts need to be better equipped with knowledge of how the EIA system works'.[125] The Executive Director of Interface Development Interventions (IDIS), a NGO in Davao, City, stated that, 'The judges lack an understanding of environmental law, especially at the lower levels of the courts'.[126]

DENR AO 2002-42, states that, 'It is the policy of the State that optimum economic development shall be achieved without delay'.[127] President Gloria Macapagal-Arroyo, in January 2004, issued Executive Order No.270 that requires the DENR to take the lead in the preparation of a Mineral Action Plan that shall set 'the guidelines and procedures on the simplification and streamlining of permitting and clearance systems'. The first issue addressed in the action plan was the 'tedious permitting process' for proposed mines. Prior more careful scrutiny of the potential environmental impacts is now reduced to streamlining the permit approval

116 Interview: Nelson Devandera, Executive Director of Palawan Council for Sustainable Development, Puerto Princesa City, Philippines (27 April 2005).

117 Interview: E. Galiste, Mining Engineer of Mines and Geosciences Bureau, Department of Environment and Natural Resources of Quezon City, Philippines (17 June 2005).

118 *Id.*

119 S. Bache, 'Are Appeals an Indicator of EIA Effectiveness? Ten Years of Theory and Practice in WA' 5 *Australian Journal of Environmental Management* 3 (1998) and H. Abaza, 'Strengthening Future Environmental Assessment Practice: An International Perspective', *in* N. Lee and C. George eds., *Environmental Assessment in Developing and Transitional Countries* 278 (New York: Wiley, 2000).

120 DENR AO 2003-30, Section 6.

121 *See* Isip, note 45 above.

122 *Certiorari* is a prerogative remedy where a court examines whether the decision made by a lower body has been made within the proper use of jurisdiction available to the lower body.

123 G.R. No. 161436, 23 June 2004.

124 *See* Mayo-Anda, note 63 above.

125 *Id.*

126 Interview: Lia Esquillo, Executive Director of Interface Development Interventions of Davao City, Philippines (17 July 2007).

127 DENR AO 2002-42, Section 1.

process. To minimise negative environmental impacts to promote genuine development, an EIA needs to be thorough, and 'time must be allowed to consider the input made by participants in the review, a principle of natural justice and procedural fairness, intended to force decision makers to take the EIA seriously'.[128]

3.7 Time to Consider Input

The Philippine EIA process is designed to be completed in minimal time and with minimal inconvenience to the mine project proponent and must take no longer than 120 days. The EMB may only make two requests for additional information from the project proponent and only within the first 90 days of the process. If the proponent does not comply with a request for information the regulator is to make a decision based on the information available in the limited stipulated time. At the end of the 120-day period the EIS is deemed approved unless expressly rejected by the EMB. Michael Cabalda, Chief MGB Science Research Specialist, reported the system is 'based upon the presumption that the EIS will be a good document' because the project proponent has 'the responsibility of submitting a good document'.[129] In the United States it usually takes much longer to complete the EIA process for a proposed large-scale mine equivalent, from 18 months to 8 years.[130]

For genuine development, thorough and careful consideration of the short and long term environmental impacts from a proposed mine and how to prevent or minimise them is an integral part of the EIA process. Currently the government is fast-tracking applications. As Gatmaytan notes, 'In the Philippines, delay or abandonment of projects is never an option of the proponent'.[131] In the words of Mayo-Anda, 'EIA is measured by a stopwatch and mandated by the skewed development priorities of the Philippines'.[132]

128 *See* Ross, note 39 above at 238.

129 Interview: M.V. Cabalda, Chief Science Research Specialist of the Mines and Geosciences Bureau, Department of Environment and Natural Resources of Quezon City, Philippines (27 July 2004).

130 *See* Bacsujlaky, note 8 above.

131 A. Gatmaytan, Its too Early for Conservation - Tokenism in the Environmental Impact Assessment System of the Philippines 90-05 (Quezon City: Legal Rights and Natural Resources Center, 1993).

132 *See* Mayo-Anda, note 63 above.

3.8 Security for Reclamation

Provisions in the FMR/DP require depositing money every year during the operation of the mine to ensure that when the mine is closed there will be funds on hand for remediation and reclamation. The Philippine government perceives there are rigorous mine reclamation requirements in DENR AO 2005-07,[133] including contributing to a Mine Monitoring Trust Fund, that will create funds to monitor environmental impacts from mines at the end of their commercial life.[134] Operators must deposit money into a Mine Rehabilitation Fund so that funds are available for the remediation and reclamation of the site.[135] The administrative order also requires mine project proponents to create a Final Mine Rehabilitation/ Decommissioning Plan (FMR/DP).

Based on his analysis of the U.S. experience with mine operator bankruptcies and inadequate funds to complete mine reclamation, Warren McCullough notes that 'Legal mechanisms and safeguards for financial assurance should not be considered valid until actually tested and proven'.[136] There have been situations in the United States where mining companies have filed for bankruptcy during the course of operations and left behind land that requires substantial and expensive remediation and reclamation to address environmental contamination. A site near Summitville, Colorado is one example where there is significant remediation and reclamation liability. The mine was abandoned and its operator, Summitville Consolidated Mining Corp. Inc. declared bankruptcy. Legal attempts by the United States government to hold the mine operators accountable and fiscally responsible for the U.S. $170 million dollar remediation and reclamation at the mine site failed.[137] It is estimated that the reclamation cost will be U.S. $71 million dollars at another site where cyanide was used to extract gold in the western United States, it has been estimated that the base and precious metals mining industry is operating with an unfunded environmental liability of 12 billion

133 *See* Galiste Interview, note 117 above.

134 DENR AO 2005-07, Section 181a.

135 *Id.* Section 181b.

136 W. McCullough, 'Financial Assurance and Bonding: What Happens When Bankruptcy Hits,' *in* L. Price *et al* eds, note 8 above at 121.

137 *See* Saunders ed., note 30 above.

dollars.[138] In light of these significant amounts, it is unlikely that the funds deposited with the Philippine Government will be adequate to reclaim the sites. The Mine Rehabilitation Fund is limited to a maximum of only 5 million Pesos. The FMR/DP provisions which require setting aside a limited amount of money during the life of the mine are inadequate if the mine operator in the Philippines become insolvent and abruptly abandons the mine before the scheduled contributions have been completed. In this scenario there will be an unfunded environmental liability for the Philippine government and taxpayers.

If DENR 2005-07 required the project proponent to post a bond that would provide adequate funds for mine reclamation at the beginning of the project, the above risk could be avoided. There is no reclamation fund in the Philippines like the U.S. Superfund[139] to address unfunded environmental liabilities arising from abandoned mines.[140] If the former mine operator or developer do not pay, the Philippine Government and ultimately the taxpayer will end up paying for the reclamation of abandoned mine sites. Inadequate security for reclamation is a problem as the number of major mines increases without security to ensure that reclamation is completed. If one mine operator defaults, there will be inadequate funds in place to clean up the abandoned mine. Mine reclamation costs then will have to be obtained from general tax revenue. Ultimately mine reclamation can become a significant expense for the government as it has in other countries. Filipino policy makers in their zeal to attract mining investment appear unprepared to risk losing foreign investment capital will face significant costs for mine reclamation in the future. This is an excellent example of the mentality prevalent in the developing world that 'a bill deferred seems almost as good as a bill unpaid'.[141]

In addition the FMR/DP provides that mine developers are responsible for contamination only for a ten-year period after closure. As processes such as acid mine drainage occur over a much longer time framework (centuries) a decade is far too short to address the longer term environmental impacts from mining. Another problem is with the Philippine regulatory in the FMR/DP, is the failure to incorporate 'risk-based methodologies/approaches'. Assessing risk is a subjective process and risk-based methodologies do not provide the high standard of protection that would be expected when planning for a worst-case environmental disaster wherein the mine operator goes bankrupt at the point in time when closure and reclamation costs are the highest.[142]

4 CONCLUSION AND RECOMMENDATIONS

Genuine development strives to promote harmony among human beings and the environment, and prompts governments to balance economic, social and environmental objectives. Sustainability requires planning for the needs of current and future generations, and optimising the use of natural resources. The concept focuses on the quality of economic growth and guides strategic planning to minimise environmental degradation and social conflict. Environmental impact assessment (EIA) can be used as an effective tool to promote genuine development. Notwithstanding the fact that the Government of the Philippines has indicated that it is committed to sustainable development in Philippine as enshrined under the Agenda 21, this analysis of the regulatory approach to EIA for proposed mines suggests otherwise. The EIA process fails to promote genuine development. EIA in the Philippines does not respect ecological integrity nor facilitate an efficient use of natural capital. It fails to promote both intra-generational and intergenerational equity and does not incorporate a participatory approach. There is a lack of environmental stewardship on the part of the national government. In regard to the evaluation of potential

138 S. D'Esposito, 'Public Perspectives on Mining – There Must be a Way to do it Right,' *in* Price *et al* eds, note 8 above at 43.

139 In the United States, the *Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA) 42 U.S.C. 103 created a pool of funds (referred to as the 'Superfund') for the rectification of unfunded environmental liabilities.

140 *See* Perez, note 88 above.

141 R. Westin, 'Intergenerational Equity and Third World Mining', 13 *University of Pennsylvania Journal of International Business Law* 187 (1992).

142 G. Emlen Hall, 'The Forest Service and Western Water Rights: An Intimate Portrait of *United States v. New Mexico'*, 45 *Natural Resources Journal* 979 (2005).

impacts from mining, the EIA process does not respect either biodiversity or ethno diversity. The system fails to consider alternative means of carrying out a proposed project to minimise negative environmental and social impacts. The system does not allow sufficient time to consider input provided in the process to mitigate negative environmental and social impacts. The approach of the Philippine government to facilitate quick project approval is contrary to genuine development. Bureaucrats merely go through the motions of assessing the environmental impacts of projects in the minimum amount of time and with the minimum amount of inconvenience to the mine developer.

The EIA regime does not effectively address cumulative effects. Renewable natural resources such as water, fish and crops which are crucial to the survival of many residents in regions where agriculture and fishing are the predominant subsistence activities are not protected. A participatory approach is lacking in the EIA process. There is limited access to information by residents who may be affected by a proposed mine and a lack of public hearings. In addition there is a significant restriction on the parties that can participate in the 'consultation' process, and therefore limited public input. In many instances NGOs are not allowed to intervene as the rules indicate only parties directly affected by a project are eligible to participate in the EIA hearing process. Frequently indigenous peoples cannot appreciate the potential impacts from proposed mines as the information that may be available through the EIA process is not in a language that the indigenous residents comprehend. Genuine development could be promoted if a broader range of stakeholders were allowed to participate in the EIA process surrounding proposed mines. To facilitate genuine development in the Philippines, the system must provide for more public input and serious consideration of that input in the EIA process.

The system discourages judicial review of administrative decisions. An EIA must be completed in minimal time with minimal inconvenience to the mine proponent. Even though security is required by the government to encourage reclamation of mine sites, based on the U.S. experience, the amount of funds that must be deposited with the government is nominal, and may well be inadequate to protect future generations from problems such as acid mine drainage and water contamination.

Currently, the Philippine EIA system is a tokenism designed to make it appear as if the environmental and social impacts of proposed mining projects are being evaluated when in reality there is no serious intent to do so. It is merely a process designed to make it appear that proposed mines are subject to environmental scrutiny when in reality the system merely facilitates project approval. The overarching priority of the Philippine government is to encourage mining, not to seriously evaluate and weigh the potential economic benefits of a proposed mine along with the negative environmental, social and cultural impacts. If in the future the Philippine Government decides to pursue genuine development, the deficiencies we have identified in the foregoing discussion must be rectified. As a starting point the five principles we have discussed which are characteristic of a regulatory system that promotes genuine development (respect for ecological integrity, efficient use of natural capital, promoting equity, a participatory approach and environmental stewardship) must be integrated into the EIA process.

Respect for the core principle of ecological integrity is facilitated through a regulatory system that maintains and restores environmental quality through planning to minimise the environmental impacts from mining, the enactment and enforcement of environmental protection legislation, reliance on the precautionary approach when there is uncertainty about the environmental impacts from mines, and an approach under which polluters pay for the environmental damage caused by their activities. It should be recognised that profitable mining does occur in jurisdictions where the legal system insists on polluter accountability and where there is meaningful input from local residents on proposed mine development in the EIA process. The law can influence development decisions by imposing restrictions on the scope and nature of mining activities and where they proceed, and can encourage corporate directors to implement sustainability policies and adopt best mining practices. To mitigate negative environmental impacts, effective remediation and long term monitoring to ensure the integrity of tailings dams, is an issue that needs to be addressed in the environmental impact assessment process to avoid a repeat of the serious problems observed near the Marcopper Mine and where cyanide spills have occurred. The Philippine Government should recognise that serious problems can arise with some mining projects due to the displacement of indigenous people, water

pollution, and social disruption and these problems can make mineral development a source of long-term poverty not prosperity. We submit that genuine development requires an environmental impact assessment process that incorporates sustainability indicators which should prompt both the government and mine developers to carefully evaluate the environmental and social impacts of proposed projects in the Philippines and mitigate the negative impacts.

The approach of the Philippine government toward proposed mines is not unique. Other governments with developing economies have considered EIA to be a process that is 'holding up development, or at least delaying it'.[143] Abaza has noted that there is a common perception in the developing world that 'EIA is antidevelopment'.[144] Lee and George have noted that many governments with developing economies fail to understand that the purpose of an EIA 'is to assist the development process, not to prevent development from taking place'.[145] To promote genuine development these governments should realize that EIA has been used successfully in other countries in Europe, the United States and Canada, to provide for economic development to accommodate the needs of the present generation and at the same time to minimise environmental and social degradation so that future generations will be in a better position to satisfy their needs.

143 *See* Gupta and Asher, note 75 above at 237.

144 *See* H. Abaza, note 119 above at 274.

145 N. Lee and C. George, 'Introduction', *in* N. Lee and C. George eds., note 119 above at 6.

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