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Editorial

*Environmental Impact Assessment: An Essential Partner for Protected Area Management**

Introduction

As populations grow and economies expand, the pressures of new land uses and developments upon ecosystems and natural areas also grow. Conservationists have sought to preserve significant natural areas by giving them protected status and for two centuries this process has worked reasonably well. Indeed, there are more protected areas on Earth today than at any time in history, Nonetheless, development pressures become more intense, including impacts often from remote sources as in the case of long-range acidic deposition of air pollutants (acid rain). It is no longer sure that a protected area is in fact safeguarded from harm. As incremental environmental degradation increased, some legislators have taken farsighted action to design management rules to avert harm. US Congressman John Dingell (Michigan) was one of the authors of the National Environmental Policy Act (NEPA),[1] which first crafted the procedure of environmental impact assessment (EIA). Dingell, still serving in Congress today, explained the need for EIA then as follows: "We have not yet learned that we must consider the natural environment as a whole and assess its quality continuously if we really wish to make strides in improving and conserving it."[2] Since 1969, parliamentarians around the world have enacted comparable laws requiring the use of EIA to assess and avert unintended harm to the environment from developments.

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1 NEPA is the first EIA law enacted and is codified at 42 USC 4321 (USA); Representative Dingell was joined by Senators Edmund Muskie and Henry Jackson in sponsoring this legislation, adopted in 1969.

2 115 Congressional Record 26571 (1969) (USA).

As early as the Third World Parks Congress held in Bali, Indonesia in 1982, the leading managers of protected areas called for the use of "prior impact assessments" to identify and avoid threats to protected areas.[3] Since then, the portions of Earth now designated as protected have grown substantially, as have the establishment of legal obligations to undertake EIA. Adopted at the 1992 Earth "Summit," the Declaration of Rio de Janeiro on Environment and Development[4] provides in Principle 17 that "Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision by a competent national authority." [5] EIA is a standard technique for multilateral development banks and for the majority of nations.[6] Given the acceptance of EIA, how should EIA be applied to enhance conservation of the still growing number of protected areas around the world?

International EIA Obligations

The general obligation for governmental decision-makers to follow EIA procedures now extends over most of the Earth. Consider, for instance, the oceans. The 1982 United Nations Convention on the Law of the Sea[7] requires the use of EIA[8] which

3 See Recommendation 6 – "Threats to Protected Areas", in which the Congress "calls for the reinforcement of measures to reduce the external threats to protected areas, and in particular, urges governments and relevant agencies to a) develop appropriate legislative and administrative mechanisms to ensure that prior impact assessments are undertaken to establish the scale and nature of the consequences of development projects, supported by powers to refuse permission or approval for those inappropriate to their environments...". See J.A. McNeely and K.R. Miller *National Parks, Conservation, and Development: The Role of Protected Areas in Sustaining Society* (Smithsonian Institution Press, Washington, DC, 1984) 769.

4 (1992) 31 ILM 874.

5 See also Principle 10, which provides that:
Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

6 For instance, the Asian Development Bank has EIA procedures, as does the World Bank.

7 (1982) 21 ILM 1261.

8 LOS Convention, Art. 206 which provides:
When States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant harmful changes to the marine environment, they shall, as far as practical, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments ... [to competent international organisations and to all States.].

applies to all marine protected areas. Indeed some specific marine treaties already make this link, such as the 1986 Noumea Convention for the Protection of the Natural Resources and Environment of the South Pacific Region (SPREP)[9] which requires both EIA[10] and the use of specially protected areas for protection of rare and fragile ecosystems.[11] EIA can do much to protect mangroves and coral reefs and other coastal marine areas, whether or not they have been accorded protected area status. Coral reefs, even in protected areas are at risk in many parts of the world.[12] In light of the threats to these ecological resources, EIA for governmentally sanctioned projects in coastal zones should focus on measures to protect, restore and maintain coral reefs and mangroves.

While the Law of the Sea Convention covers half the Earth, there are many examples of similar duties under national or international law for large terrestrial areas as well. The legal requirement for preparation of environmental impact assessments today exists in over 150 different countries.[13] The European Union (EU) since 1985 has had a Directive requiring each EU Member State to use EIA, and the EU also has Directives on protection of flora and fauna. Most of the largest States, such as China[14] and Brazil, as well as Australia, Canada, Mexico, the Russian Federation and the United States of America, require the use of EIA. In many instances, the duty to undertake EIA applies equally to national or federal authorities as well as state or provincial and local authorities alike. Each of these nations also has established extensive systems of protected areas.

Small areas can also enact EIA procedures. The City of New York did so in 1970, and revised its procedures after the State of New York enacted a State-wide EIA. New York City has continued to innovate ahead of the State, preparing a technical manual detailing how to actually do the studies for EIA within an urban setting.[15] New York City evaluates visual impacts, shadows, effects on parks, air quality, archaeology, coastal land use and access, urban design and neighborhood character, noise, and a host of other specific issues; methodologies for technical analysis are provided to ensure that all applicants for city permits will use the

9 (1987) 11 ILM 38.
10 Ibid, Art. 16.
11 Ibid, Art. 14.
12 See, eg Amber S. Ward "Reefs in Crisis" (1998) 5 *Ocean and Coastal Law Journal* 75.
13 See N.A. Robinson "EIA Abroad: The Comparative and Transnational Experience" in S.G. Hildebrand and J.B. Cannon (eds) *Environmental Analysis – The NEPA Experience* (Lewis Publishers, Boca Raton, Florida: 1993).
14 The Peoples Republic of China first required EIA in the Environmental Protection Law 1979 (China); see also National Environmental Policy Act 1981 (China).
15 Mayor's Office of the Environment (City of New York) *City Environmental Quality Review (CEQR) Technical Manual* (City of New York, New York: 1993); the author served as legal counsel for the preparation of this Manual.

appropriate advanced procedures. This Manual would be of use for EIA on any urban setting. Hong Kong enacted an Environmental Impact Assessment Ordinance in January of 1997.[16] EIA is adaptable to vast areas or small areas, developed or still natural.

At the international level, several treaties require the use of EIA, and these would apply to activities affecting protected areas. For instance, the Åarhus Convention on Access to Information, Public Participation In Decision-Making and Access to Justice in Environmental Matters[17] establishes many EIA procedures, such as on the collection and dissemination[18] of environmental information,[19] of factors affecting or likely to affect the environment,[20] about how human health and cultural sites are affected,[21] and early notice to the public of possible environmental decisions and of the means for the public to participate in those decisions,[22] and finally to have access to the courts to ensure that these rights to access to information and public participation are duly provided.[23] This Convention applies on a Pan European basis including the independent States of the former USSR. This Convention provides concrete implementation for Principles 10 and 17 of the Rio Declaration. The earlier 1991 Espoo Convention on EIA in a Transboundary Context[24] applies EIA procedures to actions that may entail transnational impacts.

Implementing EIA

Despite the pervasive application of EIA obligations over much of the Earth, EIA techniques are not yet pervasively used for all governmental decision-making. Having established the duty to do EIA, it is now necessary to do so. Use of EIA procedures are not yet well understood, nor consistently used, nor when employed are used well. Moreover, missing in all of these examples of EIA obligations is any widespread experience or practice to employ EIA especially when a proposed action

16 See Clive Briffett "EIA In East Asia" in Judith Petts (ed) *Handbook of Environmental Impact Assessment* vol 2 (Blackwell Science, London: 1999) 148.
17 United Nations Economic Commission for Europe UN Doc. ECE/CEP/43 (21 April 1998), as approved by the UN ECE Committee on Environmental Policy for adoption.
18 Ibid, Art. 5.
19 Ibid, Art. 2(3)(a).
20 Ibid, Art. 2(3)(b).
21 Ibid, Art. 2(3)(c).
22 Ibid, Art. 6(2).
23 Ibid, Art. 9.
24 (1991) 30 ILM 800.

might impact a protected area such as a park, recreation area, wildlife sanctuary, biosphere reserve or wilderness area. Given that a government already has taken a serious decision to designate a protected area, it is logical that the stewardship of such sites should be deemed to necessitate a strict use of EIA techniques.

Be that as it may, the consistent application of EIA to ensure the effectiveness of the protection accorded to conservation areas remains to be developed in most nations. This curious lapse deserves scrutiny. Protected area managers, environmental lawyers and other professionals, as well as non-governmental organisations, should devote more attention to the use of EIA in order to better secure the safeguards needed to sustain the ecological systems for which they are responsible. If the measures defining protected areas are to be sustained in the future, an urgent priority must be given to refining the techniques to apply EIA to activities that impinge on protected areas.

EIA tends to entail approximately the same procedures around the world. There commonly are eight steps to an EIS procedure. Where government either undertakes an act (eg road construction) or acts to license others to taken an action (eg a permit to construct a factory), the EIA law in the State requires the specified governmental official responsible for the act to take the following steps:

(a) make a public announcement that the act is proposed;
(b) convene a meeting of all interested parties to propose the scope of a study of the possible environmental impacts of the proposed act;
(c) prepare a draft environmental impact report or statement which includes identifying any reasonable alternative means to attain the objectives for which the action is proposed;
(d) circulate the draft to all interested parties and to the public;
(e) receive comments on the sufficiency of the analysis in the draft;
(f) consider and respond to each comment, and submit a final revised environmental impact report, including a description of ways to avert or mitigate any adverse impacts associated with the action proposed;
(g) make a final decision based on the impact assessment, and
(h) access to courts or another review process to which appeals may be addressed to consider any failures to adhere to the requirements of each of these steps.

The theory of requiring EIA is that following environmental studies, the enlightened public interest of any responsible official would prompt decision-making that would minimise the environmental impacts identified. After all, government is not expected to go out of its way to cause unnecessary environmental harm when it undertakes or authorises developments. Laws in some

jurisdictions, such as the federal level of government in the USA,[25] entrust the responsible official to weigh such options and make an informed decision, without dictating that result must be the least harmful to the environment. Other jurisdictions, such as the US states of California,[26] Minnesota[27] or New York,[28] mandate the official to select the alternative action that is shown to be least harmful to the environment. In all cases, the rigor of the EIA process lies in strict adherence to the procedural requirements of these steps.

EIA procedures, of course, are not the only way to enhance the effectiveness of governmental protection for specified ecological areas. For instance, where regional planning systems are robust, development pressures on protected areas can be averted by establishing buffer zones around parks to limit the scale or intensity or type of land uses that may adversely impact on park values. Citizen advisory committees can be established to provide on-going public comment and opportunities to advise government agencies about how to avoid impacts on protected areas. Non-governmental "Friends of Parks" organisations can supply labor and fund-raising for the protected areas. Regulatory frameworks can be established to protect identified values, such as the prevention of significant deterioration in air quality in regions where protected areas have traditionally enjoyed pristine air conditions. Voluntary land use constraints by land owners can be encouraged or private property interests may be conveyed to prevent effects on protected areas, such as through the conservation property easements. Finally contracts and other negotiated agreements may be used with either private or public property owners to stabilise environmental conditions to enhance nearby protected area values, although these agreements often need to be renewed periodically.

While such techniques are useful, they take a relatively long period of time to establish. Inevitably there are more governmental actions that impact or can

25 NEPA, 42 USC 4321, as construed by the US Supreme Court in *Robertson* v. *Methow Valley Citizens Council* 490 US 332, 109 St Ct 1835, 104 L Ed 2d 351 (1989) (USA).

26 California Environmental Quality Act (CEQA), Cal Pub Res Code §21081 (California, USA), interpreted by the California courts in *Twain Harte Homeowners* v. *County of Tuolomne* 138 Cal App 3d 664, 188 Cal Rptr 233 (1982) (USA), to set forth the reasons why the value of a development might outweigh its adverse environmental impacts.

27 Minnesota Environmental Policy Act 1973, Minn Stat Ann §§ 116D-07 (as amended 1981) (Minnesota, USA), construed by the Minnesota Supreme Court in *In re City of White Bear Lake*, 311 Minn 146, 247 NW 2d 901 (1976) (USA), ordering the agency to issue a permit for the least environmentally damaging alternative examined in the EIA.

28 NYS Environmental Quality Review Act (SEQRA), Art. 8, Environmental Conservation Law, 17 1/2 McKinney's Consol L of NY (New York, USA), interpreted by the New York Courts in *Town of Henrietta* v. *Department of Environmental Conservation*, 76 App Div 2d 215, 430 NYS 2d 440 (1980) (USA), requiring the agency to make written findings about the impacts and the conditions necessary to avoid or minimise any environmental impacts, and to adopt conditions needed in order to provide substantive mitigation of adverse effects.

impact on protected areas than there are opportunities to establish such safeguards. A more universally applicable and flexible system is needed. Since EIA is a neutral process, available for any and all actions, it is ready to use when an impact on a protected area is possible.

EIA broadly applies to any and all acts which government can control, and permits the special focus on how to entirely avoid, mitigate or compensate for any impacts either on previously protected areas, or on areas of significant natural values that ought to be protected. NEPA has required "all" federal agencies to prepare procedures for EIA. The Council on Environmental Quality has promulgated standard EIA regulations for all federal agencies.[29] When the Department of Defense decided to turn The Presidio, the oldest continuously used military facility in the USA, situated in San Francisco, over to the National Park Service, both the Army and the Parks Service employed EIA as the process for converting an army base into a national recreation area. [30] Both the US Army [31] and the US National Park Service [32] have enacted regulations governing their compliance with NEPA.

Protected Area Management and EIA

Protected area managers can benefit from employing EIA. For example, the US National Parks Service prepared an environmental impact statement for its general management plan for Big Cyprus National Preserve in Florida, a state where development pressures impinge on natural areas tremendously. The Big Cyprus National Preserve is an area of 574,440 acres of wetlands in south Florida. The Preserve was set up after two private oil fields were developed and interstate highways cross the Preserve. Some 26 rare, threatened or endangered species are found in the Preserve. The flow of freshwater through the Preserve is critical to its flora and fauna and to the Everglades nearby. The Miccosukee Tribe and the Seminole Tribe of indigenous peoples were guaranteed continuation of their traditional uses (hunting, fishing, trapping on a subsistence basis and traditional tribal ceremonies) by law when the park legislation was adopted in 1974.[33] In such

29 40 Code of Federal Regulations, Part 1500 (USA)

30 See Donald J. Hellmann "Parks, Politics and Profits: Two Views of San Francisco's Presidio – The Path of the Presidio Trust Legislation" (1998) 28 *Golden Gate Law Review* 319.

31 See 32 CFR 230 (1994) (USA); the Army Corps of Engineers NEPA regulations are at 33 CFR Parts 230, 325.

32 See 46 Fed Reg 1042 (5 January 1981) (USA), the National Park Service NEPA regulations are in 516 Departmental Manual 6, appendix 7 (USA).

33 Public Law 93-440 (1974) (USA).

a complex of development and preservation and conservation values, EIA provided a means by which comprehensively to assess how to establish management systems appropriate to each part of the Preserve.[34] Using the EIA procedures established under NEPA, the National Parks Service assessed six alternative management approaches, and sought public participation by all interested parties at each stage.[35] A process of management zones for each important ecological and cultural resource was established; planning and management units were then defined and established.

When governmental authorities other than those responsible for a protected area contemplate taking an action, the park officials or the public bodies concerned with protecting the park can also invoke the EIA process. EIA requires interested agencies, including the ministries responsible for protected areas, and the public, including the public non-governmental organisations interested in enjoying and defending a park, to comment. Those concerned with protected areas need to:

- participate in the meetings to define the scope of the environmental studies (scooping process), and;
- submit data for the environmental studies and comment on the draft environmental impact statement, and;
- outline alternatives that need to be studied and urge the most effective substantive mitigation possible based on the factual assessment, and;
- communicate concerns for the final decisions.

For instance, aesthetic impacts can be the focus of study just as can ecological impacts. Social and cultural impacts can be studied. In many instances, the responsible ministry may not perceive these sorts of impacts until those who are potentially adversely affected can identify them.

EIA techniques can be used even when a legal framework has not yet been enacted. Singapore has not enacted a formal EIA process yet, although Singapore has a robust planning process designed to establish and maintain itself as a "garden city." [36] Despite the absence of a formally legislated process for EIA, the Nature Society, a distinguished conservation non-governmental organisation in Singapore, undertook through its scientific members (eg the Botany Department of the National University of Singapore) its own informal EIA process to study impacts of

34 See N. Kuykendall, M.S. Bilecki and K. Klubnikin "Big Cyprus National Preserve Important Resource Areas and the BEPA Process: Integration of Geographic Information System Resource Data into National Park Service General Management Planning, Impact Assessment, and Public Involvement" in Hildebrand and Cannon, note 13 at 204.

35 For instance, comments were received by two tribes, 10 government agencies, 31 non-governmental organisations, and over 4,000 individuals: ibid at 220.

36 Ministry of the Environment (Singapore) *Environmental Planning and Controls – The Singapore Green Plan – Towards A Model Green City* (Ministry of the Environment, Singapore: 1992).

a proposed golf course on the ecology of the Lower Peirce Reservoir. A multidisciplinary environmental study was prepared[37] and delivered to the government and the public. A public petition in favour of protecting the forest was prepared and delivered to the government. The EIA described the project, the site, and the study's methodology; it set forth baseline studies of the existing flora and fauna, and measured and projected the biological, hydrological, chemical and related economic impact (eg higher costs of water treatment). The EIA made recommendations for alternative uses, and recommended ways to enhance the existing nature around the reservoir. The government was apprised of the ecological and hydrological systems that evidently had been previously but dimly understood. The site held 40,000 trees of 82 different species, was a secondary forest over 80 years old, is host to 163 species of plants and 485 species of animals, 44 of which are considered endangered, and serves to filter and purify water supplies. The site is also within a larger water catchment forest designated under Singapore's National Parks Act 1990, and in a preface to the EIA, Professor Tommy T.B. Koh noted that: "Our nature reserves should not be de-gazetted unless there is a compelling reason to do so. To make way for a golf course does not constitute such a reason."[38] Following release of this carefully prepared citizen EIA, the responsible government agencies chose not to go ahead with the golf course.

In some nations, such as the "Law of Ecological Expertise" enacted by The Russian Federation, if a ministry or local authority declines to undertaken an EIA, the citizens are expressly authorised to prepare the EIA. Thus, in one sense EIA is a scientific and professional process that can be used to address any governmental action impacting on the environment. However, EIA is most effective when it is established and used as a routine government process.

It is where EIA procedures are required by law that either the protected area officials or citizen defenders of the protected areas can participate in an on-going EIA to ensure that protected areas are not jeopardised by new development. For instance, the Sierra Club, a non-governmental organisation, regularly participates in EIA procedures,[39] at federal, state, and local levels throughout Canada and the US. In Malaysia, indigenous people from Bakun invoked the federal EIA procedure of the Department of the Environment in the Ministry of Science, Technology and the Environment, enacted under the Environmental Quality Act 1974, to argue that a project to construct the Bakun Dam did not comply with Malaysia's EIA

37 "Proposed Golf Course at Lower Peirce Reservoir – An Environmental Impact Assessment" (Nature Society, Singapore: 1992) (on file).

38 Ibid at 3.

39 The famous decision of *Sierra Club* v. *Morton*, 405 US 727 (1972) (USA), which facilitated the preservation of Mineral King Valley and its addition to Sequoia National Park, was made possible through the EIA procedures required by the National Forest Service under NEPA.

process. The High Court ruled that the procedures preparing the EIA were unlawful:

> a right is vested on the plaintiffs to obtain and be supplied with a copy of the EIA and coupled with the right to make representation and be heard... the [process used] tantamounts to the removal of the entire rights of the plaintiffs to participate and to give their views before the EIA is approved. The Court shall not stand idly by to witness such injustice ....[40]

Later government decisions authorised the Bakun Dam construction to continue, but the EIA process did ensure that all environmental impacts were disclosed and understood.

Often an action itself is not likely to cause one highly visible harm to a park or protected area, but is one more incident of many small harms that have a cumulative effect as they add up. The EIA process needs to examine the cumulative impacts, especially on protected areas. In regions with intense development pressures, it is often the small impacts that accumulate that cause the deterioration of ecological conditions. Cumulative impact has been defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency... or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."[41] An illustration of the use of EIA to focus on such cumulative impacts can be seen in the designation of a forest area that functions to recharge and purify ground water; on Long Island, in New York State, the "Pine Barrens" were such a forest, and a local authority allowed a development to take place which could incrementally affect the capacity of the forest lands to serve ground water protection. The local authority did not review the cumulative effect of its action to allow the development on the protected water system; the state's highest court invalidated the local authority action as follows:

> [EIA] requires the preparation of Environmental Impact Statement for any government-sponsored or government-approved 'action' that may have 'a significant effect' on the environment. One criterion for the 'significant effect' determination is the existence of 'two or more related actions...none of which has...a significant effect ... but when considered cumulatively would meet one or more of the [other regulatory significant effect] criteria.' For

40 *Kajing Tubek and Others* v. *Ekran Bhd and Others* [1996] 2 MLJ (Malayan Law Journal) 388; High Court decision cited in Lizuryaty Azrina Abdullah "Environmental Law and Its Enforcement in Malaysia: Focus on Environmental Impact Assessment (EIA) Process" in Yoshiro Nomura and Naoyuki Sakumoto (eds) *Environmental Law and Policy in Asia: Issues of Enforcement* (Institute of Developing Economies, Tokyo: March 1997) 60; see also Meenakshi Raman "The 1996 Malaysian High Court Decision concerning the Bakun Hydro-Electric Dam Project" (1997) 2 *APJEL* 93-97.

41 This definition is that of the Council on Environmental Quality, pursuant to the US National Environmental Quality Act; see 40 CFR s. 12508 (USA).

> purposes of determining whether an action meets any of those regulatory criteria, 'the lead agency **must** consider reasonably related long-term, short-term and **cumulative** effects, including other simultaneous or subsequent actions which: (1) included in any long-range plan of which the action under consideration is a part; (2) likely to be undertaken as a result thereof; or (3) dependent thereon'.... In all other circumstances, consideration of the cumulative effects of projects other than the one immediately proposed is permissible but not mandatory. [42]

Unless buffer areas with limitations on land uses abut a protected nature conservation area, it is highly likely that many cumulative impacts will take place with gradual adverse effects on the protected areas values. Protected area managers need to monitor such impacts and participate in EIA decision-making where the seemingly insignificant impacts can be pointed out and acted upon. EIA should identify the cumulative impacts and ways to avoid or compensate for them. No developer should be allowed to violate the status of a protected area through inflicting small impacts on it any more than if the developer encroached directly upon the protected area or harmed it with one big impact. Especially for protected areas in urban settings, government decision-makers must be vigilant to look for cumulative impacts and prevent them. If they fail in this effort, protected areas predictably will suffer.

Conclusions

Since EIA can be used to ensure protected areas are respected in the course of development activity, why are they not so used? There are several possible reasons that need to be examined, and responded to. First is ignorance. Most decision-makers who do not work with protected areas are genuinely uninformed of their obligation to safeguard such areas. They do not know how to do EIA. The response to this must be better educational programs. Capacity-building is lacking. Educational programs should be provided both in formal courses, in short courses or continuing educational courses, or simply in *ad hoc* seminars and conferences. Park managers need the training, as do those in other sectors (transportation, housing, etc.) who undertake EIA for their own actions.

A second factor is sectoral bias. Government officials in their own sector are focused primarily (if not exclusively) on their own missions. They do not believe that they have a duty to protect the environment broadly, or outside of their own

42 *Long Island Pine Barrens Society* v. *Planning Board of the Town of Brookhaven* 80 NY 2d 500, at 512–513 (1992) (USA); citations to Section 8-0109(2) of the NYS Environmental Conservation Law, and the regulations at 6 NY Code of Rules & Regulations s. 617.11(a)(11) and (b) are deleted from the quotation. Emphasis was provided by the court itself.

sectoral activity. They rarely feel responsible for their impacts on protected areas, for they see the parks agencies as being responsible for those areas. They argue that they lack the funding to devote resources to study their impacts on protected areas or other environmental interests. This is, of course, hardly the model of "sustainable development", and was envisioned in Agenda 21,[43] adopted at the UN Conference on Environment and Development. The States assembled at the Earth Summit agreed that:

> Governments... should strengthen national institutional capability and capacity to integrate social, economic, developmental and environmental issues at all levels of development decision-making and implementation. Attention should be given to moving away from narrow sectoral approaches, progressing towards full cross-sectoral coordination and cooperation.[44]

The means that Agenda 21 highlights to accomplish this is providing "an effective legal and regulatory framework."[45] There is no more effective legal tool for integrating across sectors than EIA, as Principle 17 of the Rio Declaration emphasised. Agenda 21 emphasised access to environmental information,[46] support for States in modernizing and strengthening the legal framework for "governance for sustainable development" which means primarily for EIA,[47] and for access to justice.[48] In addition, Agenda 21 repeatedly gives emphasis to the need for education and training.[49]

Protected area managers should give serious attention to these elements of Agenda 21. There will be an erosion in the effectiveness of protected area designation until the rule of law is strengthened, and in particular environmental law. There will be as gradual deterioration in protected area systems until there is a more systematic use of EIA procedures. Unless priority is given to training protected area managers in the use of EIA, and especially cumulative impact analysis, a decline in the effectiveness of protected area designations is likely. One of the criticisms of protected area designations today is that there are too many "paper parks", in which the requisite minimal levels of management are lacking. Education about how to use EIA can highlight the need to strengthen park management.

43 See N.A. Robinson (ed) *Agenda 21: Earth's Action Plan* (Oceana, Dobbs Ferry, NY: 1993).
44 Ibid at para. 8.12.
45 Ibid, ch 8(B).
46 Ibid, para 8.16(a).
47 Ibid, para 8.16(b).
48 Ibid, para 8.18.
49 Ibid, para 8.10:
Countries...should also undertake systematic training of government personnel, planners, and managers on a regular basis, giving priority to the requisite integrative approaches and planning and management techniques that are suited to country-specific conditions.
Unless EIA is core to such training, it will not advance in use as required to realise sustainable development.

A third reason that EIA is weakly employed is that sectoral ministries in many States give mere lip service to EIA. They see the requirements of the multilateral development banks, or their own national legislation, as red tape; their bureaucratic approach is to see to the preparation of a report in order to satisfy the requirement, and avoid entangling public participation whenever possible. Beyond education and training, it is important for civil society, for the non-governmental organisations, and for lawyers and courts to contest this cynical and non-productive view. Access to justice is important, and an ultimate recourse, to avert this sort of self-serving and shortsighted view from undermining the true functions of EIA. If this narrow view is not rebutted, there is room for corruption to creep into the EIA system. Effective participation, and public access to environmental information – both cardinal elements of all effective EIA systems – will make it less likely that this sort of corruption can emerge.

There are additional reasons for EIA to malfunction, or not become effective in the first place,[50] but if park managers and advocates will become active in exercising their procedural rights in EIA processes, neither these reasons nor any additional reasons will take hold. Beyond the actual designation of a protected area, the use of EIA is the single most important tool available to ensure the protection of that area, its ecological systems, its beauty, and its cultural importance. EIA is an effective partner for protected area legislation.

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50 See Robinson, note 13.