Devolution of environmental regulation: EIA in Malaysia

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ABSTRACT

Until very recently, environmental impact assessment in Malaysia has been a federal government responsibility. The situation is changing now with the States of Sarawak and Sabah having adopted independent impact assessment procedures for natural resource management and it is possible that other States may follow suit. This paper will examine the factors which have culminated in this trend towards devolution of environmental regulation in Malaysia and comment on possible implications for environmental management.

THE FEDERAL ENVIRONMENTAL IMPACT PROCEDURES

The Malaysian federal EIA requirements have been in operation now for ten years within the framework of the Environment Quality Act 1974 (EQA). The EQA was enacted in 1974 as the major federal environmental statute and a new Department of Environment (DOE) was established to implement this statute. The need for better environmental management was formally endorsed in the Third Malaysia Plan (Government of Malaysia, 1976). The EQA is the basic instrument for achieving national environmental objectives. During the first ten years of its administration emphasis was put on curbing pollution by means of regulations gazetted under the Act. The emphasis on control of pollution and the taking of remedial actions was a reflection of the magnitude of environmental pollution problems then and increasing public concerns. During the 1970s and 1980s, wastes from agrobased industries (palm oil and rubber) were major problems.

It was not until 1987 that environmental impact assessment (EIA) procedures were introduced under the EQA to emphasise the importance of preventative controls. Once again, this action was a response to the increasing magnitude of environmental problems in Malaysia. The shift from raw material production to manufacturing as the basis of the country's economy became evident in the 1970s, and the rate of industrialisation and urbanisation has accelerated since then. Between 1960 and 1990 real GDP increased sevenfold, at an annual growth rate of 6.8 percent. Manufacturing now accounts for over 30 percent of GDP and 60 percent of exports.

See Topic 2

UNEP EIA Training Resource Manual

Law, policy and institutional arrangements

Together with the benefits of development have come negative environmental impacts and cumulative environmental degradation.

The Malaysian EIA procedures are comparable to the National Environmental Policy Act 1969 (NEPA) model in the United States. The Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 1987 was gazetted as a project planning tool for new projects or the expansion of existing ones. Section 34A of the Environmental Quality (Amendment) Act 1985 requires anyone who intends to undertake a prescribed activity to first conduct a study to assess the likely environmental impacts that will occur from that activity and the mitigating measures that need to be undertaken. The Environmental Quality (Prescribed Activities) (EIA) Order 1987 specifies some 19 categories of activities requiring EIA reports prior to implementation. The EIA procedure is shown in Figure 1.

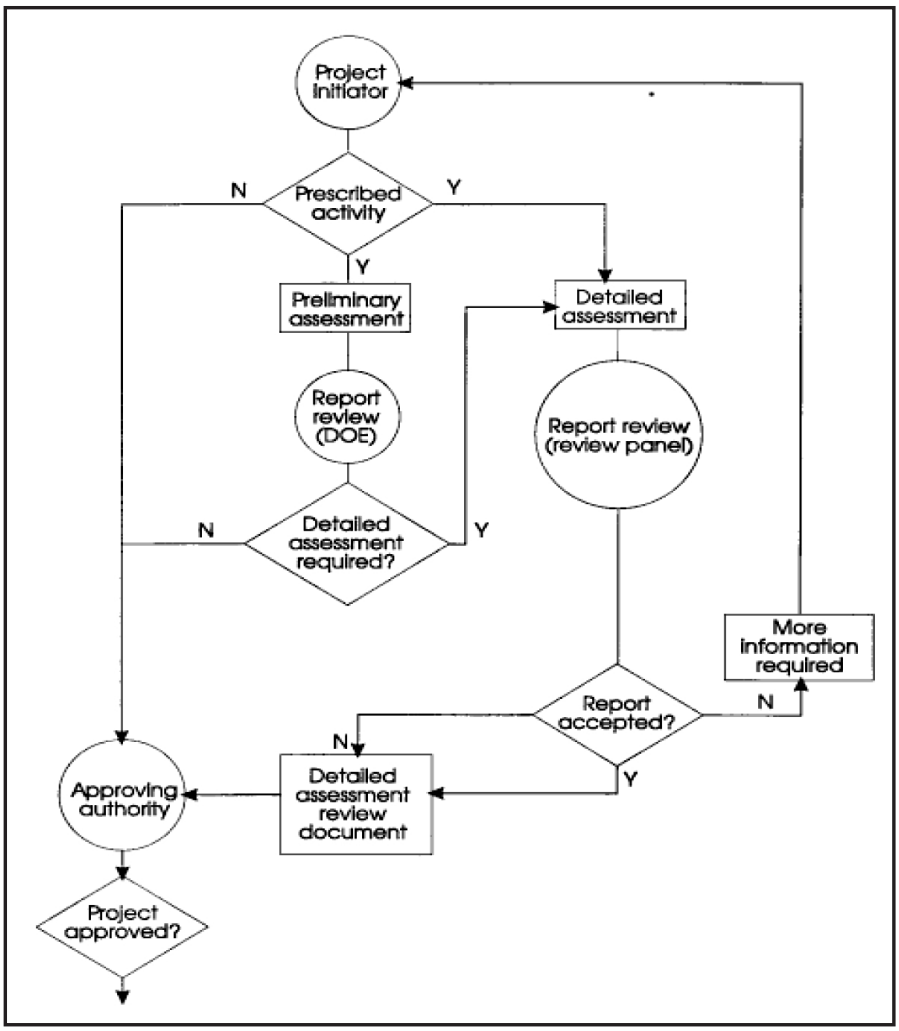

Figure 1: Federal environmental impact6 assessment procedures, Malaysia

EIA reports submitted to the DOE by project proponents are reviewed by special technical panels comprising individuals from government agencies, the universities, the private sector and non-governmental organisations.

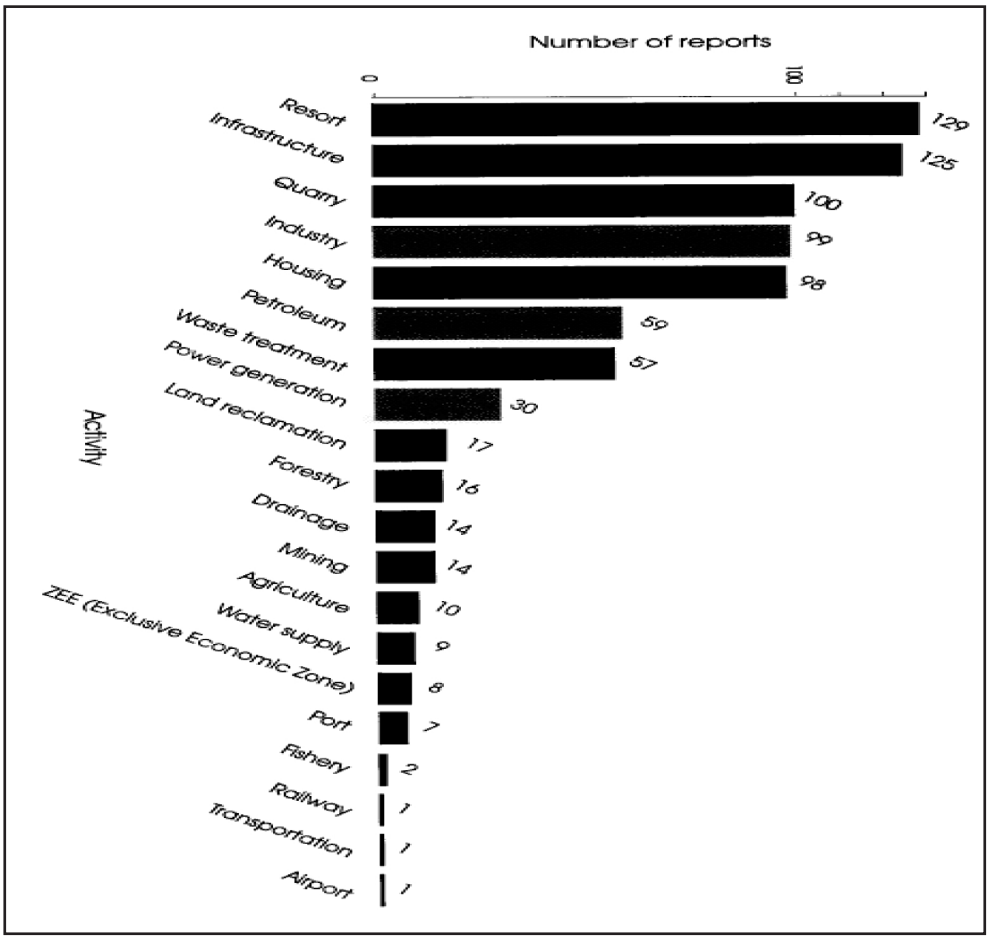

Figure 2: Federal EIA reports according to prescribed activities, Malaysia 1988-93

It has taken considerable effort on the part of the DOE to improve the understanding and acceptance of the EIA requirements on the part of state and federal agencies and private sector developers. The Department has established offices in state capitals to promote more effective co-ordination with state government bureaucracy and developers and the processing of EIA reports has been progressively decentralised to these regional DOE offices since 1993. Figure 2 above shows the distribution of EIA reports according to the type of prescribed activity specified in the EIA Order, with recreation and resorts, infrastructure and quarries as the dominant categories. Figure 3 shows the geographical distribution of EIA reports, with Selangor and Johor in Western Malaysia as the focus of most development activity. In the Sarawak State on the island of Bomeo in Eastern Malaysia the

majority of the EIA reports have been related to petroleum and related industrial development projects in Bintulu region (Rasol, 1994) (Figures 4 & *5).*

The major constraint on the effectiveness of the Federal government EIA procedures in Malaysia pertains to constitutional limits on its jurisdiction with respect to environmental management. Under the Malaysian Federal Constitution land and water are under the purview of State governments. Each State is empowered to enact laws on forestry, water resources, mining, wildlife and fisheries. The management of these resources is beyond the scope of the EQA and the role of the DOE. State government decisions over the allocation and management of these resources tend to be politically sensitive issues and the Federal government has to tread warily to avoid being perceived to interfere in State matters. As discussed below, this is particularly the case with the two Borneo States of Sarawak and Sabah in Eastern Malaysia on account of their distinct ethnic identity and the special provisions in the Malaysian constitution when they became members of the Federation in 1963.

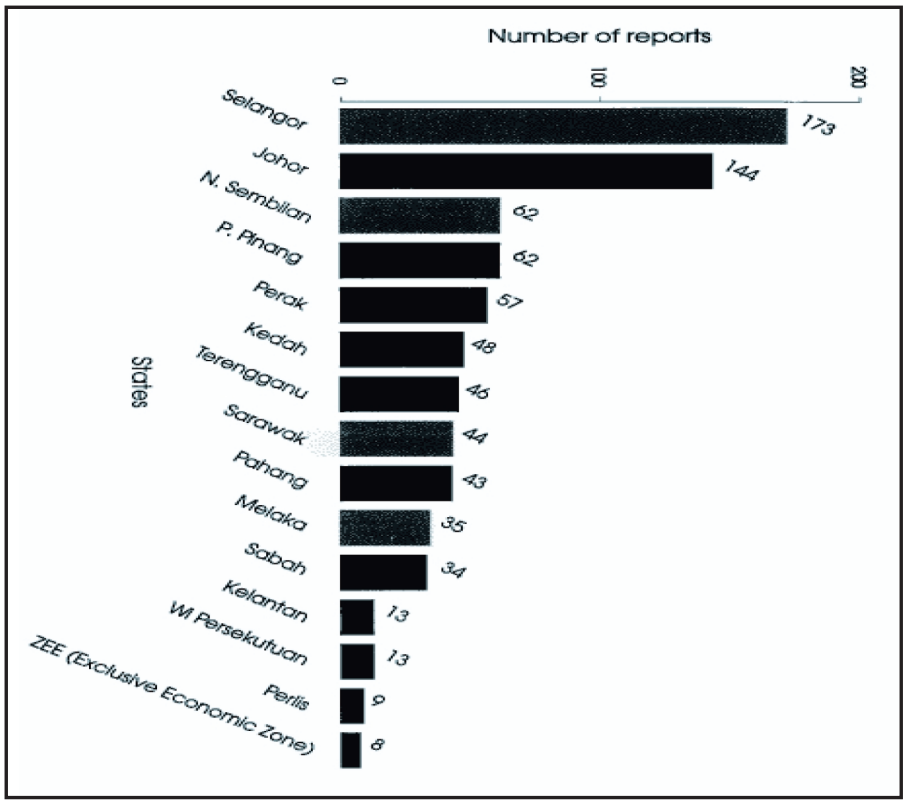

Figure 3: Federal EIA reports by States, Malaysia 1988-93

A number of other EIA issues and problems have been identified in Malaysia (Harun, 1994), and these are comparable to those in other developing countries:

- Lack of awareness of the strength of EIA as a planning tool. Many still perceive EIA as a stumbling block to development.
- Perception that carrying out an EIA study would delay project approval and implementation.
- EIA not carried out prior to final project design, so that issues such as siting and technology are not considered.
- Lack of base-line data on environmental quality.
- Poor prediction of impacts.
- Limited public participation.

CONSTITUTIONAL JURISDICTION OVER ENVIRONMENT

The Ninth Schedule of the Malaysian Federal Constitution provides for the general distribution of legislative powers between the Federal and State governments as follows: List I (Federal List) List 11 (State List) and List III (Concurrent List). In addition, the Ninth Schedule includes list 2A (Supplement to State List for Sabah and Sarawak) and List 3A (Supplement to Concurrent List for the States of Sabah and Sarawak) which accord even greater control to the two States over natural resources when Sabah and Sarawak joined the Federation in 1963. The State of Sarawak has exclusive jurisdiction to make laws affecting land use, forestry (which includes the removal of timber and biomass), impounding of inland water, diversion of rivers, electricity and the production of electricity generated by water, and local government. Items not enumerated in the Ninth Schedule fall under State jurisdiction under the Residual category.

As a reflection of the dependence of the Sarawak economy on the export of natural resources coupled with its distinctive ethnic identity, the State has over the years zealously guarded its constitutional autonomy against perceived encroachment by the Federal government. Thus, the scope of many federal statutes is limited to Eastern Malaysia while the bulk of the natural resource legislation in Sarawak comprises State enacted laws. The jurisdiction of the majority of federal laws does not extend to Sarawak as these matters are in the State List or the Concurrent List in the Federal Constitution.

During the last three years Sarawak has been successful in partially wresting from the Federal Government control of environmental impact assessment procedures specifically for resource based development projects. On the strength of its legislative powers under Article 77 of the Malaysian Constitution the State has recently amended its Natural Resources Ordinance 1949 as the Natural Resources and Environment Ordinance 1993 and established the Natural Resources and Environment Board (NREB) to

enforce the Ordinance. The purpose of the Ordinance is to enable the State Government to promote sustainable management of natural resources, specifically items that are enumerated in the State List: land use, forestry, agriculture and inland water resources. It is an enabling statute that is implemented by making subsidiary legislation or by cross-referencing it in other statutes which it over rides.

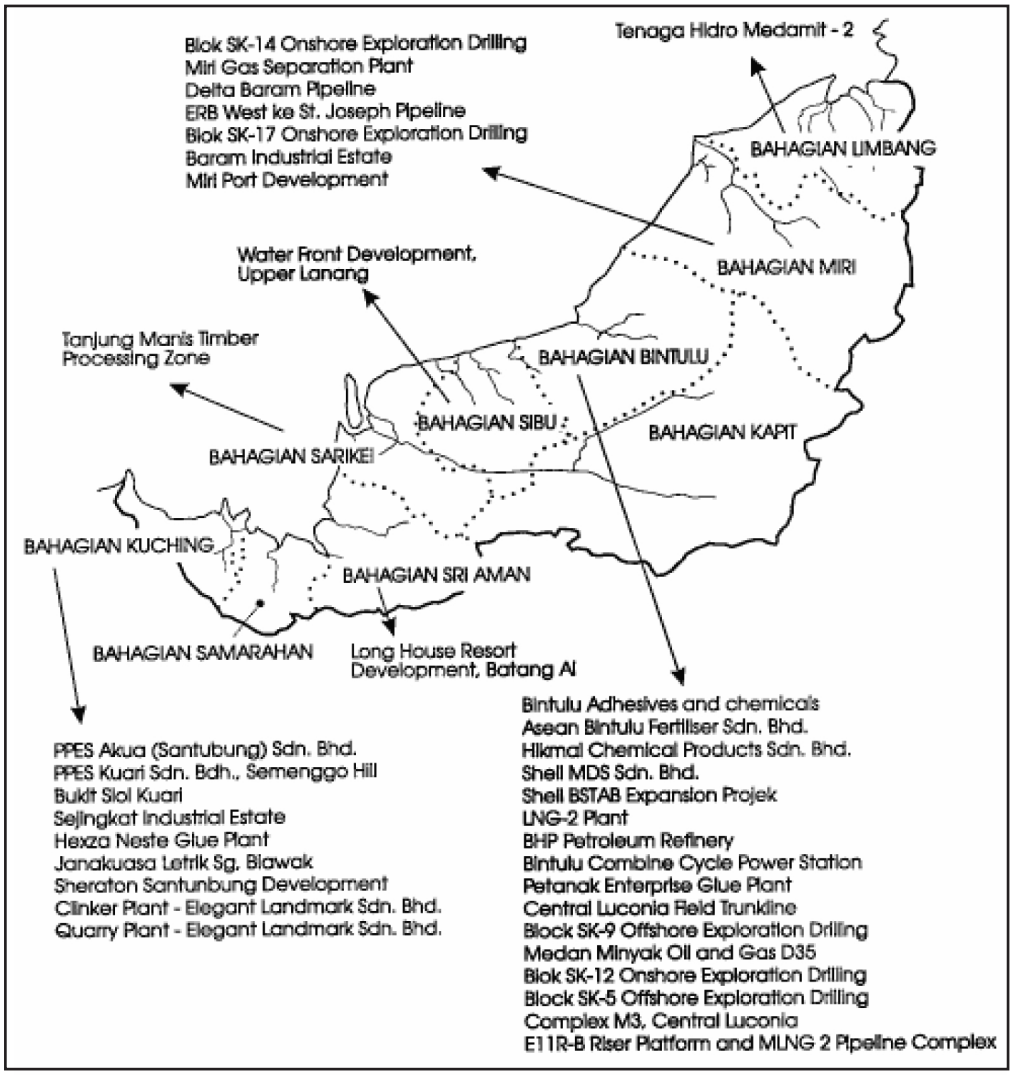

Figure 4: Geographic distribution of Federal EIA reports in Sarawak, 1988-93

The State of Sarawak has recognised that 'Environment' is not enumerated in any of the Legislative Lists and thus comes under the Residual category under state jurisdiction. The Natural Resources and Environment Ordinance is a pre-Malaysia statute enacted in 1949 when Sarawak was governed by

the Brook colonial administration. Under this Ordinance, a state Natural Resource Board could prescribe certain activities which 'may injure, or damage or have adverse impact on the quality of the environment or the natural resources of the State' to require the approval of the Board before it could be implemented. However, these powers were not exercised until 1994. The Natural Resources and Environment (Prescribed Activities) Order 1994 besides prescribing certain activities which require the Board's approval, also lays down procedures for the application for such approvals.

The statutory functions and powers of the NREB to promote sustainable management of natural resources are quite wide ranging but its specific responsibilities so far have focused on the administration of the newly gazetted environmental impact assessment procedures. The Natural Resources and Environment (Prescribed Activities) Order was made under Section 1 1 A(l) of the Ordinance. The Order contains provision directing project proponents to protect and manage the environment within their project sites through the mechanism of the EIA procedure. The prescribed activities in the Order relate specifically to those that fall under the State jurisdiction in the Federal Constitution. The Federal government has removed these activities from the ambit of the Federal EIA order made under the Environment Qualities Act (EQA) in 1987.

The process for preparing and evaluating EIA reports is parallel to that under the federal EQA statute with one significant departure. The scope for public participation is limited under the state EIA process compared to the federal EIA process. The EIA reports submitted to the NREB are evaluated by a panel of experts drawn primarily from relevant government agencies, and the recommendations from the panel are taken into consideration in the approval process by the Controller of Environmental Quality. In granting approvals to project proponents, the NREB prescribes environmental conditions for protection and management. Project proponents must undertake (in writing to the Board) to comply with all the conditions. Post-EIA monitoring is carried out by the project proponents and the NREB secretariat. The fundamental difference between this Sarawak order and the Federal Guidelines is essentially the entitlement in the Federal EQA to a copy of the EIA report by the public and the subsequent public comments to the Review Panel before an approval can be granted by the Director-General. The Sarawak Order excludes these provisions.

The NREB comprises a committee made up of ex-officio members drawn primarily from State government ministries and departments which have responsibilities for natural resources management. The committee is formally responsible for charting the policy and direction of environmental protection and management in Sarawak. Following a recent (1997) amendment to the Ordinance, most of the management responsibility has now been delegated to the Controller of Environmental Quality and his or her staff.

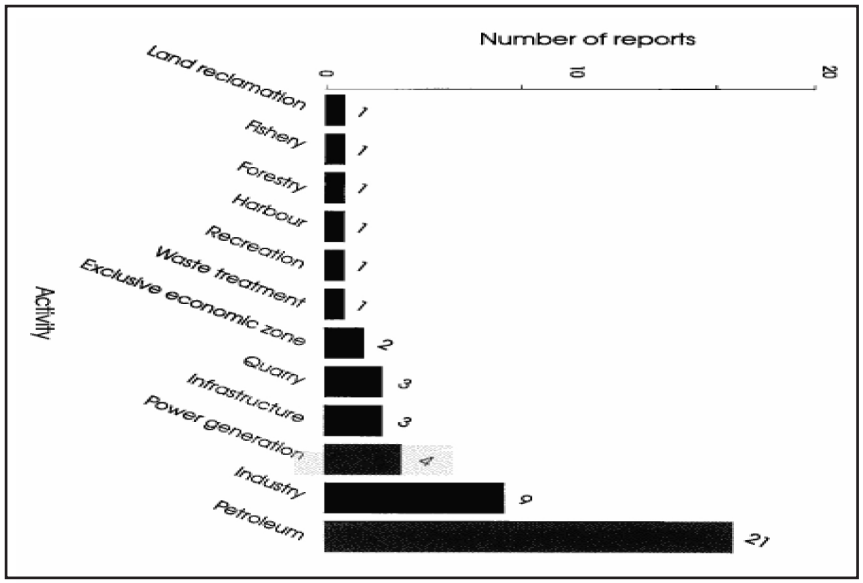

Figure 5: Federal EIA Reports according to prescribed activities, Sarawak 1988-93

DEVELOPMENT OF RECENT EIA CASE LAW

The constitutional jurisdiction of the State of Sarawak to undertake an EIA role has proved to be a controversial issue and has been recently tested in the Malaysian Courts. The cases discussed below relate to the proposed Bakun Dam which was reviewed under the new Sarawak EIA procedures. It was alleged that the State Government, with the apparent collusion of the Federal Government, had used the State EIA procedures to facilitate the path of the controversial Bakun Hydroelectricity Project on the upper Rajang River in the heart of the remaining vestiges of the tropical rainforests.

Credence to this view was provided by the manner in which the amendment to the Federal EQA was enacted to exempt the State of Sarawak from its purview and the consequent confusion that arose subsequently about the manner in which the Bakun EIA reports were reviewed. The Court of Appeal, however, has rejected this Machiavellian explanation in favour of bureaucratic ineptitude within federal government.

The Federal Cabinet of Malaysia announced in September 1993 its approval of the proposed development of the Bakun Hydroelectric Project in Sarawak. This was to be one of the most ambitious development projects ever undertaken in South East Asia and was designed to meet the long term energy requirements of the nation with the possibility of export to the neighbouring Philippines. The project comprises the creation of a reservoir, construction of a dam, and the transmission of the generated electric power from Sarawak to Western Malaysia by a transmission cable submerged across the South China Sea. There has been considerable concern within and

outside Malaysia about possible environmental and social impacts of such a large dam. With the support of international environmental groups, three local native longhouse residents lodged a High Court action because the project entailed the destruction of their longhouses, and ancestral burial sites as well as land and forests which provided shelter, livelihood, food and medicine – to all of these they claimed to have a strong cultural attachment.

The EIA for the Bakun HEP was commissioned by the project proponent on the March 1994 and subsequent to this there were various public pronouncements by the Federal Government that the EIA report would be made available to the public for their comments before approval. The Minister had assured certain public interest groups that all EIA procedures under the Federal EQA had to be complied with by the proposed project and that public views would be considered. According to the Handbook of Environmental Impact Assessment Guidelines, a detailed EIA prepared by the proponent of the project must be made available to the public, as noted earlier (Fig. 1). The public are invited to comment on the proposed project to a Review Panel which is an independent body of experts and representatives of interested organisations appointed to review an EIA report and to evaluate the environmental and developmental costs and benefits to the community. The Review Panel makes recommendations to the Director General for his or her consideration and decision on project approval.

Large scale hydroelectric power generation and transmission projects are listed as a prescribed activity under the EQA. However, on 27 March 1995, the Federal Minister of Environment exempted resource development projects in Sarawak from the ambit of the EQA and made this exemption retrospective from 1 September 1994. The explanation given for this was that the State of Sarawak had enacted the Natural Resources and Environment (Prescribed Activities) Order 1994 about that time (August 1994).

The High Court had treated the Amendment Order as the focal point of the case. The Court of Appeal changed the focus of deliberations from the validity or otherwise of a Federal or State law to a much narrower 'question of interpretation of the Federal Constitution in relation to the applicability of the EQA to Sarawak.' (Court of Appeal Judgement, page 23). Since the place where the power is to be generated is land and water, and thus the 'environment' in question lies wholly within the legislative and constitutional province of the State of Sarawak, it concluded that the State has exclusive authority to regulate by legislation, the use of it in such manner as it deems fit.

On the strength of this reasoning, the Court of Appeal has accepted the appellants' argument that the Sarawak Ordinance co-exists with the EQA, each operating within its own sphere based on the constitutional authority of the State of Sarawak to regulate by legislation those components of the environment that fall within its domain. The Judge concluded that '[in] my judgement, Parliament, when it passed the EQA, did not intend, and could

not have intended, to regulate so much of the environment as falls within the legislative jurisdiction of Sarawak.' (Court of Appeal Judgement, page 243 He agreed with the submission of the Senior Counsel that the Amendment Order was made 'not for the purpose of cutting the ground from under the feet of the respondents as suggested by their Counsel, but for the purpose of making it abundantly clear to all concerned that the 1987 order was not, for constitutional reasons, meant to apply to Sarawak.' (Court of Appeal Judgement, page 24).

While it has cleared the statutory hurdles and some aspects of the project are in the implementation phase, the ultimate completion of the Bakun Dam is uncertain at this stage on account of the recent economic crisis in Asia. In hindsight, it is ironic that economic uncertainty is much more effective compared to environmental regulation instruments such as EIA in determining the fate of large scale development projects with significant environmental impacts.

One can only speculate why the Bakun project applicant chose in the first place to seek consent under the State EIA procedures instead of the Federal procedures. Apart from the size of the venture, this project is distinctive because it was conceived as the first private sector hydroelectric power project in Malaysia. As noted earlier, the role of hydro development is reserved to the Sarawak State under the Malaysian constitution.

Hitherto, electric power generation and supply has been undertaken by SESCO, a statutory corporation owned by the State. The recent move to deregulate the Malaysian economy, including the electricity sector, created the opportunity for the Bakun project as a private sector initiative and the contract to build and operate the dam was awarded to a Sarawak based business consortium. Ostensibly, the manifest advantage of the Sarawak EIA procedures from the applicant's perspective was that they offered a faster track since the right to obtain and make submissions on the EIA report was denied to those opposed to the project. But, after all, this factor could not possibly have weighed so heavily on the minds of the Federal and State governments simply because it was not such a big hurdle to cross. Those concerned about the dam's environmental impacts could have been given the opportunity to have their say as a token gesture and the project could have been still granted approval. It would appear that the desire on the part of the Sarawak business and political elite to 'manage' their own affairs was equally significant a factor as the desire for a fast track approval when the decision was made to seek consent under the State EIA procedures. The Federal government has been recently sympathetic to some degree to such aspirations in Sarawak. Even though it is not visibly Malay dominated, the current political regime in Sarawak enjoys the tacit support of the Federal government.

While the constitutional right of the two Bomeo States to regulate by legislation aspects of the environment that fall within their constitutional

domain is now unquestionable, there are aspects of the Court of Appeal decision which are arguable. These concerns relate to the role of judiciary in developing countries such as Malaysia in helping to provide guidance on how environmental concerns should be addressed in the development planning process. The Appeal Court has demonstrated in its decision scant regard for the issues of environmental justice by rejecting the finding of the High Court that the longhouse applicants had vested rights under the Federal EQA which were denied to them under the Sarawak EIA Order. Even though it may have been correct in its ruling in this respect in a strict legal sense, it could have nevertheless encouraged or recommended to the Sarawak government that it amend its EIA Order to make provision for public participation comparable to the Federal provisions. The Appeal Court had ample opportunity to do this since the Federal EIA Order and Guidelines are quite explicit about the importance of citizen involvement as fundamental to the exercise of *evaluating* impacts. The Appeal Court decision reflects a very conservative stance on the right of Malaysian citizens to participate in environmental decision making. This case may act as a precedent to hamper the development of a vibrant participant democracy in Malaysia. The Appeal Court's rationale is that participant democracy is not appropriate in the particular cultural, political and economic context of the present Malaysian society. Such views reflect the perspectives of the elite in many Asian countries that generally discourage disagreement with decisions made by those elected to govern and emphasise the tradition of consensual decision-making in Asian societies. The activities of environmental NGOs are still frowned upon as a luxury that developing countries can ill afford.

The Appeal Court decision also reflects a lack of understanding of environment as a holistic concept and the need for integrated approaches to environmental management in Malaysia. Federal as well as state government bureaucracies in Malaysia are characterised by a sectoral approach to public administration, with limited lateral co-ordination between the activities of different agencies. This is a reflection of the predominance of economic emphasis in planning and implementing development projects. The Appeal Court took a simplistic approach when it defined the environment of the Bakun project as 'the land and river on which the project is to be carried out' (Court of Appeal Judgement, p. 17). It ignored the fact that the project is also located within social and cultural space.

DISCUSSION

The case law relating to intergovernmental jurisdiction over EIA in Malaysia reviewed here poses a number of interesting questions for the direction of development of EIA as an environmental management tool. The recent case law discussed here has affirmed the constitutional right of the Borneo States to enact their own environmental regulation instruments such as EIA for

managing natural resources independent of the Federal government statutory controls. To what extent this case law has established a precedent for the Peninsular States in Western Malaysia to follow the example of Sarawak and Sabah is open to conjecture at this stage. There is no doubt that those states in Western Malaysia which perceive themselves as relatively economically disadvantaged on account of their peripheral position and poor resource endowment may harbour similar aspirations.

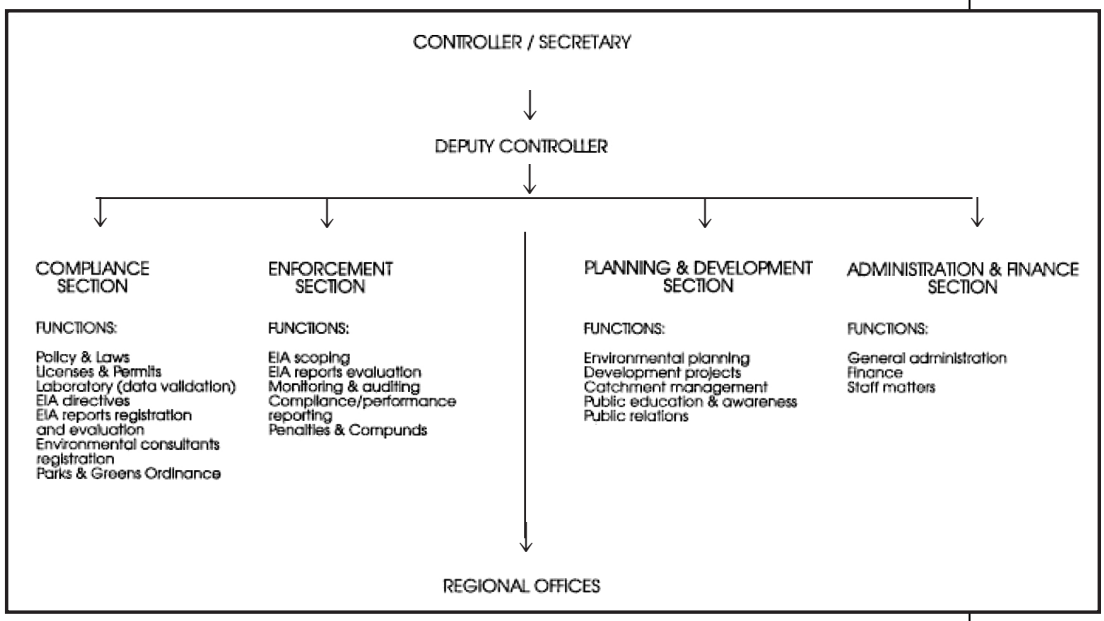

Figure 6: Organisation and function of the NREB

However, while Western Malaysian States also exercise significant control over natural resources within the framework of the Federal Malaysian constitution, their situation differs in a number of important respects. They do not enjoy the degree of relative political autonomy within the Malaysian federation as the Borneo states do. Moreover, Western Malaysia is more closely integrated within federal bureaucracy which was inherited from the British colonial administration in 1957. For example, while Sarawak and Sabah have their own separate agencies for irrigation and drainage and for public works, in Western Malaysia these services are provided by Federal government employees seconded to state agencies. Politically, Malay ethnic interests exercise a strong dominance in Western Malaysia while the Eastern Malaysian population is ethnically more plural and the Malay influence is less clearly apparent. The federal state interrelationship is not as tense on the Peninsula as it is in Bomeo. On account of these factors, Western Malaysian States may not find it as easy to break away from federal environmental regulation instruments such as environmental impact assessment.

One can debate the merits of the recent developments in Malaysia to devolve administration of EIA procedures from federal government. One may argue that one of the manifest advantages of the federal Government undertaking EIA and other forms of environmental regulation is that the process is relatively secure from political interference by state development interests. This is a legitimate concern in developing countries because quite often the line between politics and business is blurred. For this reason, critics may be tempted to question the motives on the part of state governments desirous of adopting and administering their own environmental regulation instruments. It also may make good sense to have a uniform national system for environmental regulation for a number of other reasons. For example, in a country where institutional capability is lacking, it is more effective and economic for a single national agency to undertake such a role instead of a number of state jurisdictions replicating one another. International investors may find it more convenient to operate within such a national system and there is less opportunity for them to play off one state against another. Fragmentation of environmental regulation within Malaysia may also make it difficult to address environmental problems such as air pollution which transcend state boundaries.

One has to balance such concerns with the ability of central governments to adequately resource and effectively administer EIA and other environmental regulation instruments in developing countries such as Malaysia. Malaysia is geographically a very large territory to administer while the DOE has had limited resources to undertake its functions. Partly because of their control over natural resources, some States in Malaysia have access to wider sources of funding. The situation in Sarawak today is that the NREB is a functioning environmental agency within the State government bureaucracy (Figure 1). It has been relatively well resourced by the State Treasury and has developed a strong profile, in no small measure due to the efforts of the Controller of Environmental Quality (the chief executive of NREB). The federal DOE office in Sarawak has a staff of less then 20, all based in a single office in the state capital of Kuching. The NREB has a staff of over one hundred, based in Kuching and in the regional office in Miri in the Northern region while a second regional office in Sibu in the Central region is expected in the very near future. A recent amendment has established the office of the NREB Controller as a statutory position with wider powers to give specific directives or orders to any individual to carry out the protection and enhancement of the environment, including the conduct of EIA for development activities that are not prescribed in the Order or below the minimum size required in order to protect the environment. While the threat of political interference is always there, the Board has been also given more effective enforcement powers, including specific powers to investigate offences. During its three year term of office the NREB has evaluated over 150 EIA reports. A number of development projects have either been

rejected, abandoned, given alternative sites or reduced in coverage and size (Mamit, 1997).

There are also a number of procedural weaknesses in the EIA system now in place in Sarawak: The most glaring omission is lack of provision for public participation under the State EIA procedures. The State government justifies this policy on the strength of the argument that existing channels of electoral democracy provide ample opportunities for people to have their say. The tradition of participant democracy is weak in Sarawak and there is manifest need to support the development of institutions for local governance.

Administering two parallel procedures for EIA in Sarawak necessitates close consultation between the Department of Environment and the Natural Resource and Environment Board to avoid duplication of authority that now exists. Coordination is facilitated by the fact the head of the regional DOE office in Sarawak is a member of the NREB. Nevertheless, it would be useful to find out the views of developers on ways to achieve greater co-ordination. One possibility is for the two agencies to be located under the same roof or close by.

The absence of a framework for environmental planning at a regional (catchment) level and on a local (urban) level in Sarawak is a major constraint on the effectiveness of the Federal as well as State EIA procedures. Because EIA is administered essentially as a project based tool, its ability to anticipate and manage cumulative impacts is limited.

The other major drawback of the current dual EIA procedures is that a number of activities which may impact on the environment fall outside their respected ambits. Not all activities which have significant environmental impacts come in the purview of the respective lists of prescribed activities for reasons of the limited scale or the type of project activity being proposed. As noted above, a recent amendment to the Sarawak Ordinance enables the Controller to review any project, irrespective of size.

There are a number of State natural resource statutes, particularly those for forestry or mining which have, as one of their objectives, the mitigation and regulation of detrimental environmental impact of particular activities. However, environmental protection is a subsidiary objective of these statutes in relation to the overriding objective of facilitating the utilisation of natural resources. A drawback of such statutes and organisations which combine conflicting environment and development objectives, is that decision making about environmental concerns is internalised, within a predominantly development oriented agency and therefore it lacks transparency and accountability. For a number of reasons, it becomes difficult for such an agency to give adequate consideration to its environmental responsibilities. This an important issue in Sarawak since the state is the biggest land owner and developer. Now that the State EIA procedures are in place, it would be appropriate to relocate the

environmental provisions in these statues within the Natural Resources and Environment Ordinance.

CONCLUSION

The discussion of the Malaysian situation in this paper exemplifies some major administrative difficulties in undertaking effective environmental regulation. Institutional arrangements for environmental regulation in a particular country are dependent on the distribution of power and functions between different tiers or levels of government. With the exception of states such as Singapore, environmental regulation functions in most unitary and federal states are shared between the central and sub-national levels of government. This may give rise to problems of fragmented and overlapping jurisdiction and lack of effectiveness of environmental legislation. Environment is a holistic concept and one of the major objectives of environmental management is to achieve greater integration of decision-making by taking account of environmental interdependencies. Difficulties of integrated environmental management are compounded in federal states such as Malaysia and Australia where intergovernmental relationships are constitutionally defined and issues relating to jurisdiction over environmental management functions are often politically controversial on account of their broader implications for access to, and allocation of, natural resources.

There are arguments for and against centralisation versus decentralisation of environmental regulation. Thus, for example, in New Zealand central government played a key role in environmental impact assessment until recently. This situation has changed dramatically during the last ten years as a consequence of wide ranging reforms (Memon, 1993). Environmental management responsibilities including EIA have now been decentralised to elected regional and local councils while central government has tended to assume a more passive role. While there are strong arguments which justify decentralisation of environmental regulation in New Zealand, achieving this objective has proved to be much more difficult than was anticipated earlier. There are growing concerns about the capability of local and regional councils to effectively implement an environmental statute which is quite demanding in terms of political commitment and managerial skills, the need for greater uniformity of environmental regulation practices at a national level and the need for stronger central government direction.

The trends towards devolution and decentralisation of environmental decision making are currently manifest in many other developed as well as developing countries. However, this should not absolve central government from providing leadership and direction to, as well as ensuring uniformity of practice within, sub-national jurisdictions.

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LIST OF RELEVANT PUBLISHED PAPERS AND OTHER SOURCE MATERIAL

Damal Mahkamah Tinggi Malaya Di Kuala Lumpur. Saman Pemula No. S5-21-60-1995

Dalam Makamah Rayuan Malaysia (Bidangkuasa Rayuan) Rayuan Sivil No. W-01.166 Tahun. 1996

Department of Environment, Malaysia 1987, *A Handbook of Environmental Impact Assessment Guidelines.* Ministry of Science, Technology and Government, Kuala Lumpur.

Department of Environment, Malaysia 1992, *Environmental Impact Assessment. EIA Procedures and Requirements in Malaysia,* National Printing Department, Malaysia.

Government of Malaysia 1976, *Third Malaysia Plan 1976-1980,* Government Printers, Kuala Lumpur.

Harun, Hasmah 1994, 'EIA in Malaysia, the First Five Years'. Paper presented at seminar on Environmental Impact Assessment in Malaysia - an Update, February 3-5, Kuching, Sarawak.

Mamit, James 1997, 'Environmental Impact Assessment (EIA) Procedure and Process in Sarawak', Paper presented at Training Course on Environmental Management, 15-19 December 1997, held at Kota Kinabalu.

Memon, P.A 1993, Keeping New Zealand Green. *Recent Environmental Reforms.* Dunedin, Otago University Press.

Natural Resources and Environment Board 1995, *A Handbook of the Policy and Basic Procedure of Environmental Impact Assessment (EIA) in Sarawak.*

Rasol, Abdul Aziz 1994, 'EIA Implementation in Sarawak'. Paper presented at Seminar on Environmental Impact Assessment in Malaysia – An Update. February 3-5, Kuching, Sarawak.

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