Environmental impact assessment from a Sudanese perspective

Osman Mirghani Mohamed Ali

ABSTRACT

Sudan, the largest country in Africa and the Middle East and an independent State since 1956, has witnessed profound climatic and political shifts within the last twenty years. Both have had serious implications for the environment, and natural resources as well as the sociosphere of the country. The major environmental problems befalling Sudan are desertification, depletion of natural resources and social disruption.

The history of the EIA process in Sudan as well as its *status quo* are reviewed. Examples are cited of ElAs conducted and appraised in the light of legislation, participation, environmental sustainability and capacity building. Emphasis is laid upon developmental projects related to the Nile System in Sudan.

Problems negatively impacting the efficiency of the EIA process in Sudan fall into internal and external categories. The former are related to the origin, procedure and fate of the EIA as follows :

- legislation and institutional aspects of EIA;
- lateness of the ElA in the project cycle;
- inadequate time allotted for completion of EIA ;
- composition of the EIA Team and qualification of team members ; and
- fate of the accomplished EIA .

The latter are accentuated by, *inter alia,* globalisation trends, ISOs (9001-14001) requirements and financial aspects.

Recommendations are made to alleviate/mitigate the constraints and increase the efficiency of the process of the EIA in Sudan. Three areas are most important: legislation, training and international collaboration.

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Capacity building

INTRODUCTION

Sudan, the largest country in Africa and an independent State since 1956, has an area of 2,506,000km^2 and hosts an estimated population of 26 million people. It is a country in a continent with mosaic variations in climate, ecological zones and ethnic structures. Within the last twenty years, the country has witnessed profound climatic as well as political shifts. The

drought of the seventies/early eighties has had devastating effects on the natural environment and has led to reduction of vegetation cover and food production, immigration of people and the upset of the economic as well as the social spheres of many areas. The floods and rains of the late eighties/nineties have been a mixed blessing for both the people and the natural environment. The political regime of Sudan has been an alternation of democracy/multiparty system and military/uniparty system. The implication of this has been reflected on the country's stability, economic policies and developmental strategies. Looming over and exacerbating all this, heavily taxing the natural as well as the human resources, is the 30-year civil war in the Southern Sudan.

Despite the bleak picture depicted above, Sudan has taken considerable steps regarding the issue of the environment. NGOs were active as early as the seventies, raising the Sudanese awareness of, and perception towards, the country's environmental problems. The Hydrobiological Research Unit (1953) and the Institute of Environmental Studies (1979) of the University of Khartoum could be regarded as landmarks in the environmental history of Sudan, the former for pioneering integrated, multidisciplinary research in natural resources management in Sudan, and the later for being the first institute to offer M.Sc. degrees in Environmental Studies in Africa and the Middle East. The State has adopted the National Strategy for Development for the Decade (92-2002). Within this Strategy, the environment has a committee to itself. 1992 saw the establishment of the Higher Council for Environment and Natural Resources (HCENR) to oversee, coordinate and liaise on issues pertaining to, and linked with, the environment. The culmination of these governmental steps occurred in 1995 when the environment portfolio was promoted to ministerial level. The country is currently involved, at the governmental and non-governmental level, in establishing a National Environmental Action Plan (N.E.A.P) (Ministry of Environment and Tourism & SECS, 1996).

ENVIRONMENTAL ASSESSMENT IN SUDAN

A history of EIA in Sudan shows that the report of the Equatorial Nile Project (ENP) of 1954 is probably the first ever environmental impact assessment endeavour carried out in the developing world (Moghraby, 1997). That was an EIA in function but not in name! Recent environmental and socio-economic evaluations were also carried out (Moghraby, 1982; Moghraby & El Sammani, 1985). It is worth-mentioning that EIA requirements were first introduced by the World Bank in 1989 through its Operational Directive 4.01 on Environmental Assessment, now Operational Policy 4.01 (Freestone, 1996). Some of the ElAs undertaken in Sudan are shown in Table I.

Project	*Year*	*Executor*	*Funding Agent*
Sudan's Southern Stock Route	1985	IES*	US-AID
The Locust Control Projet	1988	IES	US-AID
UNICEF Hand-pumps Program in Kordofan	1988	IES	US-AID
The hamadab Dam	1991	Monenco Consultant	Government of Sudan
The Heightening of Roseiris Dam	1992	G Karrar and Partners	Government of Sudan
En-Nuhoud-El Fashir Road	1995	W Kirkpatrick and S&S Cons.	African Development Bank

Table 1: Some of the EIAs conducted in Sudan (1984-1995)

Sudan is currently embarking on ambitious developmental programmes such as rehabilitation of agricultural schemes, construction of transcountry roads, digging of irrigation canals, building and heightening of dams and extraction and transportation of crude oil as well as a number of new industries. Each of these projects could have diverse and significant environmental impacts. For each of these projects an EIA is either in progress or is planned.

FEATURES OF THE PROCESS OF EIA IN SUDAN

Legislation

As most of the developing projects in Sudan are sponsored and implemented by overseas donors, it is the donors who require and usually supervise the implementation of particular ElAs. Sudan itself has not legislated for EIA as a mandatory requirement as is the case, for example, in the German Act on the Assessment of Environmental Impacts (Tier, 1998). Instead, there are over 150 natural resources laws and sectoral regulations dealing with health, water supply, land tenure, game, protected areas, fisheries and marine resources and other sectors of natural resources. More recently, Sudan has taken a remarkable step towards promulgating comprehensive environmental legislation, the *Environmental Protection Policy Act*, awaiting the signature of the President before being implemented, which states that: 'Any large developmental project, which construction might negatively impact the quality of the environment should undergo an Environment Feasibility Study (EFS).'

Stipulated in the EFS is the requirement for the following information:

- effect of proposed project/action on the environment;
- any unavoidable negative environmental impact; and
- available alternatives for proposed actions.)

AGENCIES CONDUCTING EIA

For an effective implementation of an EIA two pre-requisites are vital: proper qualification of the conducting agency and its independence and non-polarity. Unfortunately, these two conditions are not strictly observed. An array of agencies and consultants are available, all claiming to be qualified and experienced in conducting ElAs for all types of projects. As for the second condition, in a particular irrigation project, the constructing firm entrusted with the implementation of the rehabilitation protocol won the tender for carrying out the EIA for the same project This no doubt undermines the integrity of the bidding authority and blemishes the value and goal of the process itself.

THE TIMING OF THE EIA

The implementation of an EIA has to insure that, should an adverse environmental impact be foreseen, the necessary corrective measures are formulated in the early stages of preparation of the proposed project. The prerequisite of this is that the EIA should be started and accomplished before the proposed date of the project execution. However, this is not always the case. In Zimbabwe the EIA was carried out for the proposed Osbome Dam while the construction of the dam was already under way with the engineers, surveyors and other staff working on the dam site! (ICEA, 1989). In Sudan, the rehabilitation of canals and other irrigation structures as well as the construction of the pump stations in all four schemes of the Northern Province Irrigation Rehabilitation Project were in progress when the tenders for the EIA were opened! This delay in starting the EIA process happened even though the feasibility study of the Rehabilitation Project was conducted 16 years ago! In both cases such efforts cannot be deemed as EIA and can only rank as environmental evaluation studies (EES). The time factor affects the quality of EIA in so far as the lateness of the EIA would not permit meticulous, integrated conduct of the assignment, nor would it allow for application of the recommended mitigation procedures.

PARTICIPATION

The participation of the local people and NGOs will no doubt act as a safeguard ensuring that the EIA has not overlooked the envisaged impacts on the community concerned. This participatory involvement should begin from the point of the project identification and continue throughout the project cycle. However, this is loosely, if at all, adhered to. Similar to the findings of Gutman (1997), public participation, with a few exception, did not rank high among the ElAs. It was either ruled out, omitted by the EIA team or was acknowledged as too late and too limited. Such practices as the coopting of local expertise in the EIA team and in the administration of questionnaires are not enough. This calls for remedial measures such as spelling out in the EIA Act that the participation of the local people is of

equal importance and inseparable from the process itself. Concomitant with that, if not prior to it, is the training of NGOS, CBOs and affected groups to take part in the EIA protocols. Good ElAs are expected to contribute to the final project design, give the public a say in the project, and add to overall environmental awareness among involved parties (Gutman, 1997).

THE FATE OF THE EIA

Bad as it is not to undertake an EIS, it is worse to ignore the results of an EIA once accomplished. The monitoring of mitigation measures calls for a responsible body. Such an agency as the environment management agency (PEA) is lacking in Sudan. The HCENR, if institutionally upgraded and financially supported, could fill that gap. Otherwise, questions as to

- who will implement the findings of the EIA?
- who will supervise the implementation? and
- who will supervise the implementation? remain unanswered.

THE FEDERAL SYSTEM

The federal governing system adopted by Sudan casts heavy shadows over the EIA process. Conflict over natural resources could occur between various States. The devolution of the Comprehensive Environmental Legislation to State levels needs the executive power to make it effective. It is suggested that the Central Government should have a stronger grip on policies, legislation, foreign affairs and coordination.

RECOMMENDATIONS

- The country should hasten its steps towards the adoption of the NEAP and the signing of the EPA.
- Qualified firms, institutions and personnel should be involved in EIA. The quality of EIA should comply with ISO 14001.
- Manuals and EIA software should be available in English and, if possible, in Arabic languages.
- Manuals and software should be tailored to Sudanese circumstances or to similar developing countries.
- The HCENR should be upgraded institutionally and supported financially.
- Research and training institutes such as the Institute of Environmental Studies should be supported to be the focal point of all ElAs in Sudan.
- Popular participation should be an integral part of the EIA.
- ElAs should be open to competition by consultants firms via invitation to tender.

- It should be obligatory for overseas implementing firms to consult with Sudanese experts to enhance the Environment Assessment (EA) capabilities in the country.
- Enough time should be available between the completion of the EIA and the execution of the project.
- Social and economic issues should receive equal weight as the natural environment.

LIST OF RELEVANT PUBLISHED PAPERS AND OTHER SOURCE MATERIAL

Freestone, D. 1996, Legal dimensions of environmental management, Environmental Matters, 38-39.

Gutman, P. 1997, EIA of Urban Projects in Developing Countries: challenge, experience, suggestions, *Impact Assessment*, 15 (4): 377-406.

ICEA 1989, Preliminary EIA on the proposed Osbome Dam, Zimbabwe, ICEA Report No. 3
(ICEA/82 6.1/103).

Ministry of Environment and Tourism & Sudan Environmental Conservation Society 1996, Towards a National Environmental Action Plan for Sudan, Khartoum.

Moghraby, A.l. el 1982, The Jongli Canal - Needed development or potential eco disaster? *Environmental Conservation*, 9(2): 141- 148.

Moghraby, A.I. and el Sammani, M. 0. 1985, On the environmental and socio-economic impact of the Jongli Canal Project, Southern Sudan, *Environmental Conservation*, 12(l): 41-48.

Moghraby, A.I. el 1997, Water Management in Sudan, presented at IAIA 17th Annual Meeting, New Orleans, USA.

Tier, A.M. 1998, Environmental and Natural Resources: Statutes and Materials, (Temp. Ed.). Khartoum.

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Environmental assessment study of the Safir-Hadramout Road project

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ABSTRACT

This case study is meant to investigate the procedure and format of an EIA study carried out in the Republic of Yemen for a project funded by the World Bank. The project is for a proposed road, 311km long, that will traverse the central part of the country, crossing areas of archeological and prehistoric importance. The EIA study was suggested and funded by the World Bank and it was carried out by a private consultancy company in conjunction with Yemeni experts. The EIA study for this project is considered the most effective EIA in Yemen to date and it resulted in modifying the design and alignment of the proposed road in favour of protecting the areas of archeological and prehistoric nature.

INTRODUCTION

The proposal is for constructing a road, 311km long, that will traverse the central part of the Republic of Yemen, connecting the Eastern Governorate with the capital Sana'a, by providing a shorter route that can act as a basic infrastructure to serve the developing oil industry and other agricultural/horticultural, social and tourist activities along the road.

The role of the environmental assessment for this project is to determine the baseline environmental conditions and to evaluate and reduce, or prevent, the direct and indirect negative cumulative effects on the biophysical, ecological, social and cultural environment, considering the conservation of archaeological and historical sites. The study also aims to develop a follow-up monitoring plan for management actions during the construction and operation of the project.

The focus of this case study is the investigation of methods and techniques used in the preparation of environmental assessment studies recently applied in Yemen and to identify guiding values and principles for improving the practice.

NATURE AND SCOPE OF THE ISSUES

The Environmental Protection Council (EPC) was established in Yemen in 1990, after the Yemeni Unity. Before its establishment, regulations governing

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environmental issues were scattered in different laws of the previously two republics.

After the establishment of the EPC, it had responsibility for proposing and submitting drafts of environmental laws on all aspects of environmental issues and for specifying standards. The Environmental Protection Law, issued in 1993 after being approved by the Cabinet of Ministers and the Yemeni Parliament, was still awaiting approval at the time of deciding that an EIA study would be essential for this project.

The EIA study was suggested and funded by the donor (The World Bank). The elements of the detailed EIA study were defined in the Draft EIA Law for Yemen, and these were in accordance with World Bank requirements.

The EIA study was carried out in 1992 taking into account the legal framework in Yemen including pertinent regulations and standards governing environmental issues such as environmental protection, rights to property, water and common land. A more detailed description of EIA elements and procedure was approved later within the Environmental Impact Assessment Policy For The Republic Of Yemen, issued in 1996.

PROCESS AND PROCEDURAL CONTEXT

The process for the EIA study followed more or less the same procedure described in the recently published EIA policy document.

The Terms of Reference (ToR) for the EIA study were as required under the World Bank Operational Directives 4.01, Environmental Assessment (Environmental Assessment Source Book, 1991). The scope suggested by the ToR was that the EIA study should cover the following issues.

DESCRIPTION OF THE PROPOSED PROJECT

Description of the environment: providing baseline data on the relevant environmental characteristics of the study area focusing on:

- Physical environment including a description of the geology, surface and groundwater hydrology and quality, heavy rains and flash floods, recharge areas, salinity of soils, wind conditions, temperature, and significant landscapes.

- Biological environment covering ecologically important or sensitive habitats, migration routes of wildlife and herds (camels, goats, sheep), location of significant grazing fields and water sources.

- Social and cultural environment covering such aspects as population distribution, community structure, tribal people, land tenure, existing settlements, infrastructure and services, public health and employment.

- Archaeological and historical sites of significance covering prehistoric and historic remains, including artifacts such as flints and ceramic material, monuments such as tombs and hydraulic structures as evidence of early agriculture. The work was to be done in two phases: Phase 1 was to be of 15 days duration and would be a reconnaissance of the full length of the road. Phase 2 extending through another 15 days would be concerned with the recording and fencing of archeological material with agreement with the concerned authorities in Yemen.

- Legislative and regulatory considerations: describing the pertinent regulations and standards governing the environmental issues and the protection of sensitive areas. Special attention should be given to water and land rights and customary law practices.

- Determination of the potential direct and indirect impacts of the proposed project: taking into account the views of the affected social groups, concerned Government agencies and NGOs.

- Development of an Environmental Management Plan: recommending feasible and cost effective measures to prevent or reduce negative impacts and enhance positive ones.

- Development of a Monitoring Plan: through the preparation of a detailed plan to monitor the implementation of environment management actions and the impacts of the project during construction and operation.

The output should be in the form of an Inception Report prepared within one month of the start of the study with the work programme and EIA methodology to be forwarded to the Government and IDA for review and comments. The Draft Final Report should be submitted to the Government and IDA within four months of the start of the study. The Final Report should be submitted within one month of receiving the comments of the Government and IDA.

APPROACH TAKEN

The methodology of the EIA study can be summarised as follows:

Pre-field stage

On the basis of available maps and information a base map was prepared at 1:250,000 scale. Thematic maps at smaller scale were presented based on secondary data to highlight important issues noted for reconnaissance.

Satellite images and aerial photographs had been studied to relate their interpretation to field observations/investigations. Thus ground features observed during reconnaissance surveys had been used to prepare the resource inventory. Accordingly maps on land, soil, land use capability and its actual use had been prepared.

Three schedules were prepared to collect information in the field in connection with the study of land unit, soil and nomadic/sedentary population which are essential to study desert ecology to formulate environmental impacts.

Field stage

The field stage was undertaken by all the experts along the entire length of the proposed road corridor for visual assessment and local inquiries and for meeting the critical data gaps, and identifying potential environmental and social impacts. This helped in understanding the regional environmental and ecological processes acting in the project area. This led to the identification and division of the proposed road into environmentally homogeneous segments for each of which the quality of environment was assessed and likely impacts due to road construction and actions for mitigating negative impacts (if any) were identified.

Post-field stage

Dynamics of desert environment

To assess the impact of the road construction on environment and on land degradation/desertification, studies had been undertaken in the context of natural/biotic (anthropogenic) intervention, over-exploitation of resources etc. The presence of desertification/land degradation had been identified with references to: movement of sand in broad terms; deflation of fine material – increase in coarse material; degradation of marginal lands – removal of top soil and grass cover; enlargement of rock outcrops or bare areas to indicate degrees of erosion; decreasing or disappearance of vegetative cover; rise and fall of water tables; and the practice of cutting trees.

Geology and hydrogeology

Objectives of the study, activities were planned as follows:

- collecting and review of existing geological and hydrogeological data and reports covering the study area (IJNDP and Department of Hydrogeology in the Ministry of Oil and Mineral Resources);
- study of topographic maps with ground contours, drainage channels and orientation with heights of sand dunes;
- study of sub-surface geology as obtained through the bore wells for identifying the aquifer zones and their aerial distribution;

- study of water maps to identify the occurrence and depth of groundwater;
- study of water table contour maps to identify the areas of recharge and discharge and also to find out the movement and gradient of groundwater;
- study of hydrochemistry of surface and groundwater;
- study of the aquifer characteristics as determined through pumping tests for various aquifer parameters to work out water balance;
- study of rainfall record for working out the rainfall infiltration;
- study of groundwater development and its effects on the groundwater regime on a long term basis; and
- regional development

For the regional planning and development strategy, the following sequential tasks had been carried out. The initial project objectives were to be seen in the context of the overall policies and programmes of the Republic of Yemen and in particular of the Governorates of Marib and Hadramout as the proposed road passed through these two Governorates.

A resource and data base had been prepared for all natural resources as well as man made features to understand the biophysical, socio-economic and cultural environment in the regional perspective. Major sectoral resources inventory namely water, soils and minerals, agriculture, livestock animal husbandry, flora and fauna, oil and energy had been undertaken along with physical and social infrastructure and linkages and communication systems.

The above was then analysed to determine the environmental status and the settlement systems, whereby identification of the development issues and growth potentials would be possible.

Social and cultural dynamism

For the social and cultural impacts of nomadic, semi-nomadic and settled Bedouins along the proposed Safir- Hadramout road alignment, the Consultants undertook the following activities through compilation of information from published and unpublished secondary sources as well as computation from selective questionnaires and interviews supplemented by personal observations. The objectives had been seen as follows:

Profiles of the social organisation and cultural patterns of the major nomadic, seminomadic and other settled social groups and their spatial distribution in the project area were done. In addition, a study was undertaken to assess the social perspective on development and response to the changing use of human resources. The analysis of these dimensions would reveal the nature of their expectations and priorities, movement and

settlement patterns. As a corollary to the above, it would be possible to indicate the anticipated clustering of people and activities along the proposed road alignment. This would enable the requirements of social and economic infrastructure, in response to the probable spatial arrangement of people and activities to be determined. Based upon the evaluation of social and cultural impacts, measures for addressing environmental impacts had been formulated.

Institutional study

Care had been taken to study organigrams of the National and Governmental administration highlighting the powers and responsibilities of the different departments Law regarding right to land property, access to water, land use controls, etc., were also referred to. The views of the Government of ROY on developmental prospects were also considered. The work done by some of the area developmental authorities and agricultural research stations were studied during field studies, the imperatives of the Environmental Management Plan and tasks of the monitoring unit had been formulated.

Segmentation of road alignment for impact assessment

Field studies were conducted jointly by all the experts along the entire length of the proposed road corridor. This led to the identification and partition of the road into 22 segments, for each of which the quality of the environment was assessed and actions for mitigating negative impacts were identified. The quality of road-segment environment was reviewed against the regional environmental setting. As a result, the actions required to enhance the environment were identified. This had been used to prepare the Environmental Management and Monitoring Plan.

Prehistoric/archeology resource study

The following methodology was adopted for this study:

- Pre-field stage
  This stage consisted of a comprehensive literature review of published and unpublished documents relevant to the prehistory and archeology of the general project area. Archival materials, including artefacts and manuscripts, had been inspected at the General Organization for Antiques, Manuscript and Museum (GOAMM) and library in Sana'a.
- Field stage – project corridor study
  This stage consisted of a comprehensive field survey aimed at locating and recording prehistoric and archeological sites within the proposed

corridor. Identified sites were accurately plotted through the use of topographic maps and a Magellan model 5000 GPS (Global Positioning System) unit. A standard form was used for reporting information in all sites to ensure consistency. Artefact collections were carried out, labelled and sent to laboratory for analysis.

- Site testing
  Upon completion of the site identification and reporting, limited site testing was required at several sites. The site testing was implemented in order to address site significance through utilising certain criteria such as site integrity and the presence of *in situ* cultural materials of regional, local and academic research importance.
- Data analysis/report preparation
  This stage of archeological investigations included analysis of recovered artefacts and preparation of a report. The report included findings at each site as well as a statement of significance for the encountered archeological sites. The report also included the expected impact(s) from the proposed project on the evaluated sites and recommendations.

RESULTS AND IMPLICATIONS

The results were presented in report form and as summary tables. The approaches used were successful in providing excellent information about the environmental features along the road. The division of the road into 22 segments of environmentally homogeneous segments helped in the assessment of the impact on the quality of the environment for each segment. The technique used was successful in describing the environmental features of the full length of the road corridor as well as the adjacent area.

The negative impacts expected to result from road construction activities and construction of camps, and those expected to occur after the completion of the construction of the road, were tabulated with their mitigating measures and actions to be included in the Environmental Management and Monitoring Plan. Similarly, positive environmental impacts were presented with the actions to be included in the Management and Monitoring Plan to enhance those positive effects.

The survey on Heritage Archeological and Prehistoric sites along the corridor of the road resulted in identification of 35 archaeological sites belonging to Bronze Age, South Arabic, Islamic, Modern Bedouins. Tables representing segments of road where archeological sites occur and the different actions necessary for the conservation of different sites ranging from:

- no action
- avoid quarrying.

- protect by fencing
- re-align road
- monitor during construction (GOAMM), and
- prepare maps for further information before road construction (GOAMM).

The survey also identified 50 prehistoric sites belonging to Lower Palaeolithic (Acheulean), Middle Palaeolithic, Upper Palaeolithic, and Neolithic Bronze Age. The survey indicated that 78 per cent of the sites were located in four segments of the road and that alternative sources for building materials should be sought and quarrying avoided in those sites as they could act as a guide for future explorations in the adjoining regions.

The survey also recommended that GOAMM should attach itself to the project to carry out further investigations and to contribute in the Management and Monitoring Plan by associating a Palaeogeomorphologist with a competent Prehistorian.

The EIA study also recommended actions to enhance positive social impacts resulting from the construction of the road leading to the creation of job opportunities and reducing fragmentation between the local groups.

LESSONS LEARNED

- The EIA study was carried out in 1992 in Yemen. At that time, the idea of implementing an EIA study before a project was still new to decision makers. The World Bank as the donor organisation suggested and funded the EIA study for this project which is considered now as the best available for its effectiveness in modifying the initial design and alignment of the road and its findings and recommendations concerning the conservation of the archeological and prehistoric heritage of the country. This leads to the conclusion that donor Governments and organisations can play an important role in supporting the idea of EIA in developing countries, by making it a condition for funding the project and including EIA study funds in the total cost of the project, emphasising the importance of it being implemented at the feasibility study stage of any project.

- The EIA study was carried out in Yemen at a time when environmental standards and policy were still under formulation. This did not stop the implementation of the study and it was done using guideline values from existing standards in other countries.

- The approach taken needed a wide range of expertise to be involved in the preparations of the studies and field visits. The EIA was prepared making good use of the expertise of local qualified experts

who played a major role in achieving good communication and cooperation between ministries and other specialised organisations using all the existing and available resources.

- The results of the EIA study were of great importance, leading to changes in the design and alignment of the proposed route, thus protecting areas of National Heritage that could have been mishandled causing the country a great loss.

- In Yemen and in many other developing countries, many projects were implemented without undertaking an EIA study. Some of those projects had severe negative impacts on the environment. This can lead to the conclusion that the development of environmental auditing techniques to mitigate the negative impacts over a reasonable time span, can be equally important in developing countries.

LIST OF RELEVANT PUBLISHED PAPERS OR OTHER SOURCE MATERIAL

Environment Protection Council, Environmental Impact Assessment Policy For The Republic Of Yemen, June-1996, Doc. No. EPC/96/089, Euroconsult.

Ministry of Construction, General-Cooperation For Roads And Bridges, Republic of Yemen.

Safir-Hadramout Road Project, Studies Related to Environmental Assessment Feasibility and Detailed Design, Environmental Assessment Report Vol. 1 (Draft), December, 1993.

World Bank Environmental Department, Environmental Assessment Source Book, 1991, Vols. 1 & 2 & 3, The World Bank, Washington.

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Current status of the environmental impact assessment system in Ethiopia

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ABSTRACT

One of the most ominous of all problems facing Ethiopia is environmental crisis which threatens to precipitate and deepen the country's precarious economic and social state. Among other things, this environmental crisis is due to unwise use of natural resources and unplanned development projects prompted by rapid population growth. In Ethiopia development planning, especially, has in the past been rather rudimentary, and that which existed paid little or no attention to environmental impacts. As a result the country has, over the last few decades, experienced a serious degradation of natural resources and damage to the environment and human health.

In line with Ethiopia's Agricultural Development Led Industrialisation (ADLI) Strategy requirement, the country is currently launching a major programme for the intensification of agriculture, including large-scale development irrigation schemes and industrialisation. If appropriate environmental monitoring and protection is not carried out, the development efforts of these projects could damage the environment and make development unsustainable.

In recognition of this, and of the urgency of the matter, the Environmental Protection Authority (EPA) has taken major action and prepared a draft EIA system, including Procedural Guidelines, which is used for all types of development projects in any sector (e.g. Agriculture, Industry, Transport). The main purpose of this procedure is that it is to be used as a tool for both planning and decision making, with the objective of ensuring that potential problems with projects and other development activities are foreseen and addressed at an early stage in the project cycle or other planning process.

This paper discusses the status of the draft EIA system in Ethiopia and raises a number of fundamental issues regarding the development of EIA procedures (one component of the proposed EIA system) such as the stage in the project cycle at which EIA should be introduced, its scope, the need for opportunities for the public to comment on EIAs and the institutional arrangements for their implementation.

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Overview of EIA

INTRODUCTION

Background

Past experience has shown that programmes and projects undertaken in different sectors of the country have caused damage to the environment and to public health. This is because traditional project preparations and decisions were mainly based on short term economic and technical feasibilities and neglected the environmental and social as well as the long-term economic dimensions.

Concern for environmental degradation in Ethiopia has been growing in recent years. The Ethiopian Federal Democratic Republic Constitution provides basic and comprehensive principles and guidelines for environmental protection and management. The Constitution states that everyone has the right to live in a clean and healthy environment and the Government will make every effort to provide such an environment. The Constitution also holds the Government and the people of Ethiopia responsible for the preservation of natural resources and maintenance of ecological balances. A number of proclamations and supporting regulations were made that contain provisions for the protection and management of the environment which reflect the principles of the Constitution.

The most important step in setting up the legal framework for the environment in Ethiopia has been the establishment of the Environmental Protection Authority (EPA) by proclamation No. 9/1995. According to this proclamation the Environmental Protection Authority (EPA) has amongst its 'powers and duties':

- To prepare environmental protection policy and laws; and, upon approval, follow up their implementation.

- To prepare directives and systems necessary for evaluating the impact of social and economic development projects on the environment; follow up and supervise their implementation.

These powers and duties are amongst those for which the Environmental Protection Agency has been given particular responsibility by the Government. In this regard, the EPA has taken the necessary steps and embarked on the establishment of an Environmental Impact Assessment System for Ethiopia including the preparation of Procedural and Sectoral Guidelines as a prerequisite for the approval of new development activities and projects.

The purpose of this paper is to highlight the major endeavours undertaken by the Authority in preparing the draft EIA system (especially the development of Procedural Guidelines) in Ethiopia.

ENVIRONMENTAL POLICY

A basis for EPA's EIA system

The first comprehensive statement of Environmental Policy for the Federal Democratic Republic of Ethiopia was approved by the Council of Ministers in April, 1997. It was based on the policy and strategy findings and recommendations contained in Volume II of the Conservation Strategy for Ethiopia. The Environmental Policy is predicated on a growing concern for the degradation of the natural resource base, and takes into account how that base is affected by, and affects, the overall productivity of the agriculture sector in the country. The 'overall policy goal is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the sound management and use of natural, human-made and cultural resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs'.

The following extracts are derived from the respective policy objective statements and policy elements within the National Environmental Policy and have been considered as providing essential guidance for EPA's activities in general and for its preparation of EIA Procedural Guideline in particular:

Extracts from the Environmental Policy of Ethiopia

- Incorporate the full economic, social and environmental costs and benefits of natural resources development.
- Appropriate and affordable technologies which use renewable resources efficiently shall be adopted, adapted, developed and disseminated.
- When a compromise between short-term economic growth and long-term environmental protection is necessary, then development activities shall minimise degrading and polluting impacts on ecological and life support systems.
- Regular and accurate assessment and monitoring of environmental conditions shall be undertaken.
- Ensure that environmental impact assessments consider not only physical and biological impacts but also address social, socio-economic, political and cultural conditions.
- Recognise that public consultation is an integral part of EIA and ensure that EIA procedures make provision for both an independent review and public comment before consideration by decision makers.
- Establish the necessary institutional framework and determine the linkages of its parts for undertaking, coordinating and approving EIAs

and the subsequent system of environmental audits required to ensure compliance with conditions.

- Develop detailed sectoral technical guidelines in EIA and environmental audits.
- Ensure that preliminary and full EIAs are undertaken by the relevant sectoral ministries or departments, if in the public sector, and by the developer, if in the private sector.

The above policy objective statements and guiding principles were very important as they have shaped the draft EIA system formulation and their implementation.

OVERVIEW OF EIA SYSTEM IN ETHIOPIA (STATUS)

Approaches taken in developing the EIA system

The EIA Procedural Guideline is derived from a range of other sources and has been adapted, where appropriate, to suit the environmental and social situation of the country. As mentioned in the introductory part of this paper, however, the primary source is the Environmental Policy of Ethiopia.

Most of the issues which are raised in establishing the mechanism for the effective implementation of the EIA procedure in the development projects of all sectors are essentially similar. For this reason one set of procedures has been prepared which is relevant to all development projects. But the proposed procedure does not show detailed aspects of technical issues that are pertinent to projects in particular sectors. Such details have been covered in technical guidelines specific to the sectors.

Application of the proposed procedure

The prepared Procedural Guideline is applied only to those projects whose location, nature or scale mean that they are likely to have significant impact, not to every small-scale development project. In this regard, therefore it is believed that the prepared procedure is simple and does not create bureaucratic obstacles to progress but is making a positive contribution to development by ensuring that those development schemes that go ahead will be healthy, acceptable and successful.

As addressed in the Procedural Guideline, smaller projects will only require an EIA study if their impact is likely to be significant by virtue of their location or other special feature (e.g. a scheme with a dam and reservoir is more likely to require an EIA than a run of river scheme).

According to the proposal, the project proponent (developer) is responsible for undertaking an 'Initial Environmental Examination' (IEE) in order to determine whether or not a given project requires full EIA. The IEE report would have importance in setting out relevant details of the project (location, size of the project, likely impacts and proposed mitigation

measures etc). On the basis of the IEE report, the Competent Agency (e.g. EPA) will approve the project (with conditions if considered necessary), request a full EIA study, or reject the project outright.

The EPA can assist developers in addressing environmental issues related to development projects and in meeting environmental impact assessment requirements by preparing sectoral EIA guidelines that provide relevant information and making them available to the developers.

STATUS OF THE EIA SYSTEM AND KEY ISSUES RAISED IN THE PROCEDURE

With its limited experience with initiating and completing environmental impact assessment studies of development projects, the EPA also has only very recent experience on the establishment of the EIA system (Procedural and Sectoral Guidelines). The proposed EIA system is at a draft level and is expected to be refined by the input of comments and/or suggestions from different stakeholders.

The draft EIA Procedural Guideline raises a number of fundamental questions regarding the development of EIA procedures in Ethiopia, such as the stage in the project cycle at which EIA should be introduced, the need for giving opportunities for the public to participate on EIAs, and the institutional arrangements for their implementation. Proposals have been formulated for these elements and are briefly discussed in the EIA Procedural Guideline document. A brief discussion of these elements is in the section of this paper which addresses some of the important aspects of the Procedural Guideline. In the Guideline there is also a recommendation for developing some outlines for EIA procedures which include an Initial Environmental Examination (IEE) for categorisation of projects which require EIA. The scope of EIA procedures is also presented. As briefly discussed in the document, the main purpose of the procedure is to guide the developer, competent agencies (EPA at the federal level and environmental agencies at the regions) and other stakeholders through the EIA process.

Sectoral Guidelines (eg. Agriculture, Industry and Transport) contain in great detail technical aspects that are pertinent to projects in particular sectors. These sectoral guidelines will benefit the developer and the country by steering the projects into sustainable development and by avoiding the careless use and destruction of Ethiopia's fragile environment and precious natural resources on which present and future generations depend.

However, this draft EIA system in Ethiopia is not yet legally binding and is used on a voluntary basis. It is hoped that after experience is gained in implementing the EIA, the EIA system will be formalised by way of backing it with the necessary legislation and regulations. To this effect, the Environmental Policy of Ethiopia has already been adopted and the preparation of a framework environmental law is under way.

SOME OF THE IMPORTANT ASPECTS (ELEMENTS) OF EIA PROCEDURAL GUIDELINES

EIA procedures and the project cycle

In the proposed guideline it is suggested that the environmental consequences of a proposed project should be recognised early in the project cycle since this makes it easier and less costly to expand, reject or sustainably modify the proposal. As projects pass through successive stages of the cycle and are not 'rejected' however, it is proposed that their scrutiny should go into more detail. In this aspect the draft EIA system has recommended an element of monitoring of the actual environmental impact of a project once implementation takes place in order to check that:

- there has been compliance with environmental standards;
- mitigation measures have been implemented; and
- no unexpected impacts have arisen.

OUTLINES OF THE PROPOSED DRAFT EIA PROCESS (MAIN STAGES)

The main stages in the proposed draft environmental impact assessment process include:

- Screening which will be undertaken to decide which projects should be subject to environmental impact assessment. Criteria used include size of project, nature of project and sensitivity of the environment. As clearly mentioned in the proposed guideline, screening will be undertaken by the Competent Agency. This will be done by reviewing the Initial Environmental Impact Statement of the proposed project.
- Scoping: the process which defines the key issues should be included in the environmental assessment. The intent of this process is to focus the environmental impact assessment on a limited number of environmental issues and to identify these issues through proactive public consultation which ensures that a wide number of stakeholders are to be involved. As stated in the guideline document, these key issues will be clearly described in the Terms of Reference (ToR) which will be prepared by the project proponent. According to the proposal, the ToR will be submitted to the competent agency for approval.
- Study phase: As stated in the procedure, paying the cost of, and undertaking, the study is the responsibility of the project proponent. The output of the study (EIS) will be reviewed by the Competent Agency.
- Review: As environmental impact statements are normally produced by the project proponents, it is usual for a review to be undertaken by the concerned Competent Agency. The concerned Competent Agency is also

responsible for reviewing and approving the Initial Environmental Examination reports and ToRs of the proposed projects.

- Monitoring is normally adopted as a mechanism to check that any conditions imposed on the project are being enforced or to check the quality of the affected environment. The responsibility for undertaking this activity is with the project proponent. However, the Competent Agency is also involved in this process as is deemed necessary.
- Auditing is used to test the scientific accuracy of impact predictions and as a check on environmental management practices. It is stated in the guideline document that the project proponent and the Competent Agency are actively participating in undertaking this major activity.

These broadly defined stages in the proposed procedure reflect what is now considered to be good practice within environmental impact assessment. However, it should be noted that there are other key elements which have been included in the Procedural Guideline. Among these are consultation with the public, government and non-government agencies as an integral part of the process.

BENEFITS AND CONSTRAINTS OF THE IMPLEMENTATION OF THE DRAFT EIA SYSTEM

Benefits

The EIA system has helped the EPA and other decision makers to anticipate potential impacts of proposed development activities, both beneficial and adverse, assisting in the identification of optional alternatives which maximise beneficial impacts and mitigate adverse impacts on the environment.

The proposed procedure is found to be useful in that it enables individual projects to proceed only when it has been determined that they will not cause unacceptable environmental damage and that mitigation measures will be taken, whenever feasible, to minimise any damage which is considered to be unavoidable.

With the formation of local governments and devolution of decision making to grassroot echelons of communities, these proposed procedures and guidelines have given more emphasis to new directions to address specific local needs and opportunities.

The draft EIA system has evolved in a way that is attracting the grassroots people to participate in project planning and design as well as decision-making. The EIA system developed by the authority is spearheading such an initiative which will lay the requisite basis for public participation in environmental and developmental planning and monitoring of projects.

Recently, two workshops on the proposed EIA system were held. The comments and/or suggestions collected from the participants during the workshops have served as a basis to refine the guideline documents and when adopted and implemented at a later stage will create a sense of ownership by all concerned stakeholders.

The EIA process allows project developers to have sufficient information regarding environmental impact so that they can make sound development choices.

Constraints

Major constraints which have been recognised as the result of implementation of the draft Procedural and Sectoral guidelines are:

Even though there have been some sectors which considered the requirement of EIA in their laws, there is as yet no law or regulation that applies to all proposed development projects. And this would make the proposed EIA guidelines at present not enforceable.

Although the guidelines are fairly comprehensive, they are limited in their applicability. Those limitations which need further due considerations are:

- setting indicators for threshold values for selecting development projects which require partial detailed EIA;
- setting criteria for defining adverse significant impacts of a project;
- developing appropriate standards (environmental requirements) for reviewing environmental impact statement reports;
- reviewing checklists and Initial Environmental Examination (IEE) format; and
- auditing procedures and using audit checklists.

There is a shortage of trained practitioners for the implementation of EIA.

Past experience has shown that most of the EIAs undertaken by many of the proponents have been at a late stage during the study phase rather than early in the screening phase. And this does not fit the EIA objective of influencing the choice of project alternatives.

There needs to be a way of addressing appropriate mechanisms to ensure adequate and useful public involvement throughout the project cycle.

Pending issues such as institutional arrangements so as to effectively execute the EIA, setting the time frame for various stages of EIA process, and the incorporation of workable appeal and grievance procedure have not yet been settled.

LIST OF RELEVANT PUBLISHED PAPERS OR OTHER SOURCE MATERIAL

Proclamation No.1/1995 Constitution of Federal Democratic Republic of Ethiopia (FDRE).

Proclamation No.9/1995 Environmental Protection Establishment (FDRE).

Proclamation No.4/1995 Definition of the powers and duties of the Executive organs of the Federal Democratic Republic of Ethiopia (FDRE) Proclamation.

Environmental Protection Authority, EPA 1997; *Environmental Policy of the Federal Democratic Republic of Ethiopia.*

Environmental Protection Authority, EPA 1997: *Procedural Guideline for Environmental Impact Assessment (draft).*

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procedures

State of the environment in Sudan

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ABSTRACT

Sudan is an example that projects the environmental plight of Africa, south of the Sahara – drought and desertification, floods, deforestation, loss of biodiversity, tribal and ethnic conflict and poverty are only too common. As a result, interest and commitment to environmental impact assessment practices have become mandatory by donors when executing new development projects. Older projects, however, continue to escape notice. New projects compile their own ' EIA' with no genuine efforts to legalize and institutionalize EIA.

INTRODUCTION

No doubt accumulating indigenous knowledge and cultures are influenced by natural resources and the intensity of their use. In this respect Sudan could be taken as an example of the whole Sudano-Sahelian Belt, across Africa south of the Sahara. Historically tribal communities were well organized in mitigating natural disasters like fire and the invasion by the desert locust. Managing natural resources became more institutionally efficient after the re-conquest of Sudan in 1898. The first environmental law enacted was the Forestry Act of 1901, followed by the Land Tenure Law of 1908. The early 30s witnessed several environmental initiatives. The 40s produced the 'Stepping Report' on desert encroachment in Sudan and neighbouring African Countries. The Forestry Law came into force in 1932, the Wildlife Act and the proclamation of several National Parks came in 1935. The Land Use Committee was also established in 1944. It was a good record! Management of resources, however, was focused on exporting raw materials to the benefit of colonial countries.

Many years ahead of its time was the establishment of the Jonglei Investigation Team to look into the probable impacts of the Equatorial Nile Project. The four-volume report, submitted in 1954, is perhaps the first Environmental Impact Assessment endeavour ever carried out prior to a development project in Africa. The project was subsequently abandoned due to its monumental environmental and social repercussions.

After independence in 1956 the National Governments took several initiatives to manage and rehabilitate natural resources. Several specialized departments and units were created to conserve soils and program water

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etc. Massive projects were launched like the anti-thirst campaign of the 1960s, expansion in rain-fed and irrigated agriculture, building dams across the Nile and other rivers, overstocking livestock, deforestation etc. This resulted in large-scale population movements, environmental degradation, dam siltation etc. It must be stressed that the outlook had always been that natural resources are renewable and infinite. The value put on the soils, waters and natural vegetation covers for example was zero in the calculations of cost and benefit of new projects.

Professional and sectoral tribalism and population explosion as well as cyclic droughts increased synergetic pressures on the natural resources culminating in chronic poverty, repeated famines and near total collapse in life-supporting production systems. Sudan is at this point in time one of the poorest countries in the world; in spite of the fact that it is vastly rich in natural resources and highly qualified professionals. It is a typical situation of 'scarcity among the plenty'.

Firm political commitment and understanding of the environmental dimensions of resource management does not exist. Many examples could be cited. The new adoption of the federal laws divided the country into 26 states. The division of old administration areas into northern and southern states neglected the ecological need to draw management plans on regional bases.

BACKGROUND

With an area of around 2.5 million square km Sudan stretches between latitudes 4 and 22 North. It is mostly flat plains with a few mountain areas, the highest of which is Jebel Marra massive in the west. It is bounded by nine countries and a coastline around 650km on the east. Sudan has around 2000 million ha of surface water the most important of which is a 4000 km stretch of the Nile and tributaries. Rainfall ranges between almost nothing in the barren deserts of the north to about 1400mm in the southern sub-humid parts of the country. The climate is tropical and is one of the hottest in the world with vast daily and seasonal variations in temperature. According to the 1993 census Sudan is inhabited by almost 25 million people of whom 25% live in the capital, Khartoum. They belong to about 700 tribes speaking more than 300 dialects and languages. The rate of growth is around 2.9%. About 80% of the population depend on agriculture for their livelihood. Cotton, oil seeds, gum arabic and livestock are the main exports of the country.

Harrison and Jackson classified the ecological zones of Sudan in 1958 as:

- Deserts: cover almost 30% of the northern parts. Annual precipitation is less than 50 mm; soils are sandy. Sparse vegetation grows on seasonal 'waddis' and the banks of the Nile.
- Semi deserts: cover above 20% south of the desert belt. Rainfall

between 50 and 300 mm. It is speckled with few Acacia trees and thorny bushes and zerophytes.

- Low rainfall woodland Savannah: covers about 27% of the area of Sudan with rainfall less than 900 mm. A nine-month dry period. Annual grasses are dominant. Heavy clay soils lie on the east of the Nile and the west is sandy. Most of the 36 million feddans of rain-fed agriculture and the 4 million irrigated lands fall within this heavily populated belt.
- High rainfall woodland Savannah: 13% of the area with rainfall more than 900 mm and with broad-leafed trees in the Southern parts of Sudan
- Swamps: are probably the largest in the world and cover about l0% and fall in three main areas around the tributaries of the White Nile.
- Highlands: are less than 0.3% of the area of Sudan and are scattered along the Red Sea coast, the south and the west of the country.
- The Red Sea Cost-Marine ecosystem, mangrove swamps, coral reefs and associated fauna.

The ecological diversity is reflected in the richness of biodiversity; out of 13 mammalian orders in Africa, 12 occur in Sudan. Cave and Macdonald (1958) recorded 971 species of birds. Setzer (1956) reported 91 genera and 224 species and sub-species of mammals other than bats. The Nile is the home of 106 species of fish and the swamps are considered as a major gene reserve (Moghraby 1982). One water sample taken by Prowse in 1958 'contained 211 species and varieties of desmids of which no less than 21 were entirely new species and 48 are new varieties and formae' (Hammerton 1964). World Research Institution Annual Report 1995 recorded 3112 flowering plants in Sudan.

Biomass makes up more than 80% of the energy used, 12% are petroleum derivatives while hydropower is only I %. Oil reserves have recently been discovered in the western and southern parts of the country. Sudan is currently suffering from a chronic energy crisis (Callaghan *et al* 1985).

THE STATE OF THE ENVIRONMENT

At the beginning of the 20th century the population of Sudan was only three millions and the economy was a subsistence one. Modernization of the economy and social progress started with education well before World War One. Massive agricultural schemes like the Gezira (2.5 million feddans) were launched after the War. This involved building dams and irrigation works (10 thousand km of canalization in the Gezira scheme).

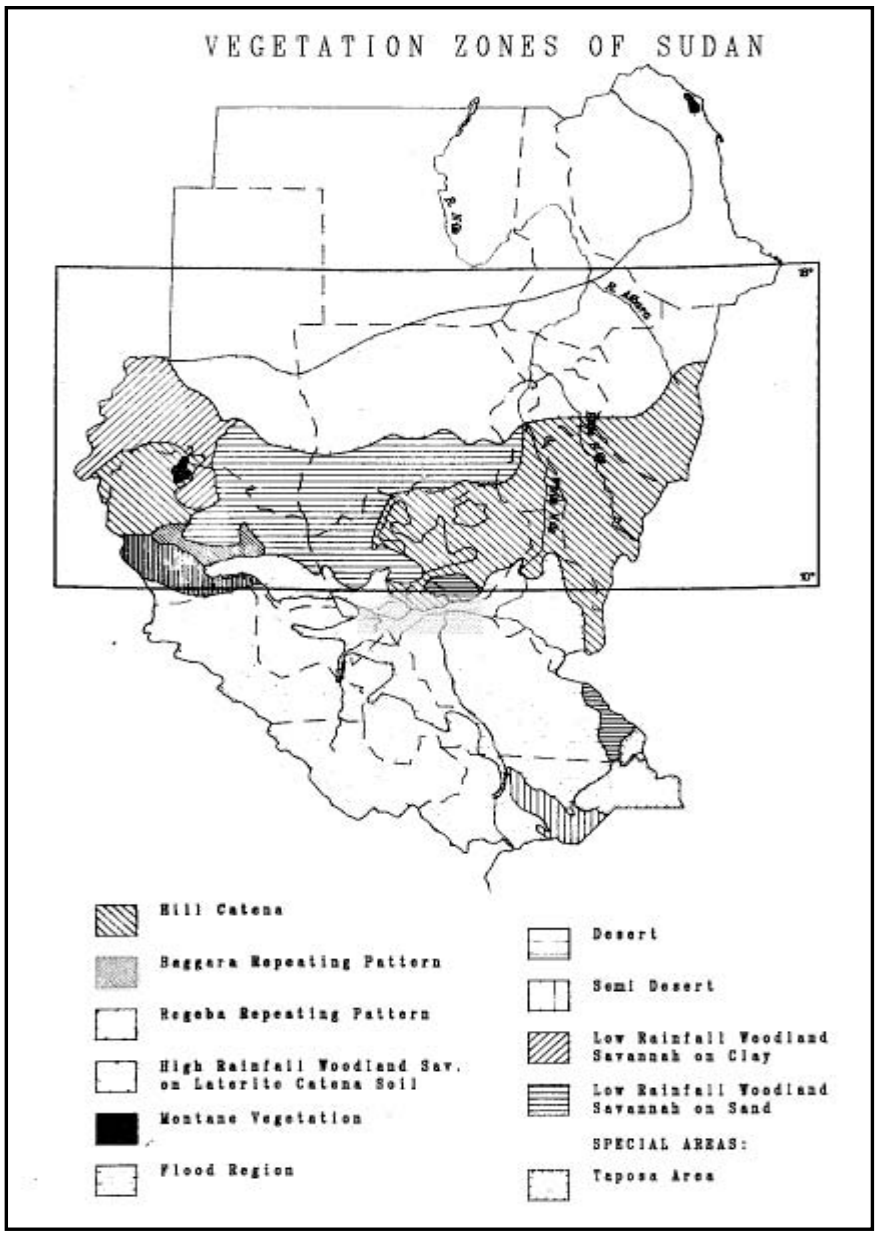

Figure 1: Vegetative zones of Sudan

Although pilot projects, to test production techniques, preceded the full scale launching of the project, environmental impacts, like deforestation, population movements, Stalinization and water related diseases, were not even considered. The goal of the scheme was the production of long-stable cotton for export. Economic progress followed in many directions, influenced by the colonial powers, trying to bridge the gulf between production growth and a stagnant economy.

At this time the general picture is as follows:

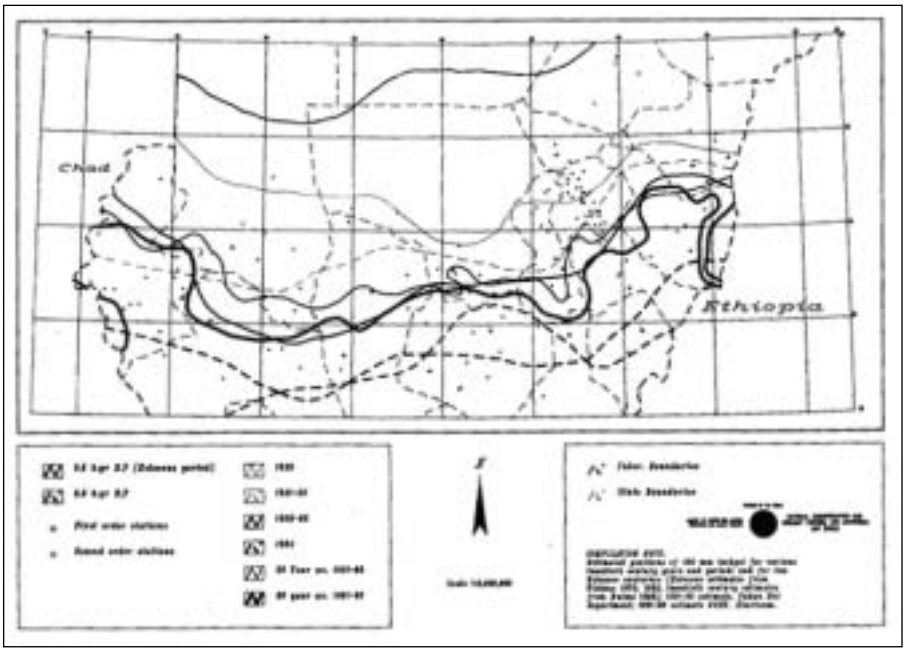

Figure 2: Estimated changes in the position of 400 mm isohyet

Soil degradation

This is interpreted as the inability of the resource to sustain production. This is due to receding isohytes towards the south of the country. Consequently the vegetation cover north of latitude 12 disappeared almost completely. This is also due to repeated use of fire deforestation, drought and the dearth of reforestation efforts. Compacting of soils and deforestation become very significant problems around water points especially after the 'anti-thirst campaign' of the 1960s. Sand dune movement accelerated rates of desertification.

Deterioration of water resources

Global Warming, drought and desertification accelerated rates of deterioration in water resources both qualitatively and quantitatively. The annual discharges of the Nile system have decreased during the past two decades. It is postulated that rainfall over the Ethiopian Highlands will decrease in the order of 15%, which would result in a 30% decrease in the discharge of the Ethiopian tributaries of the Niles.

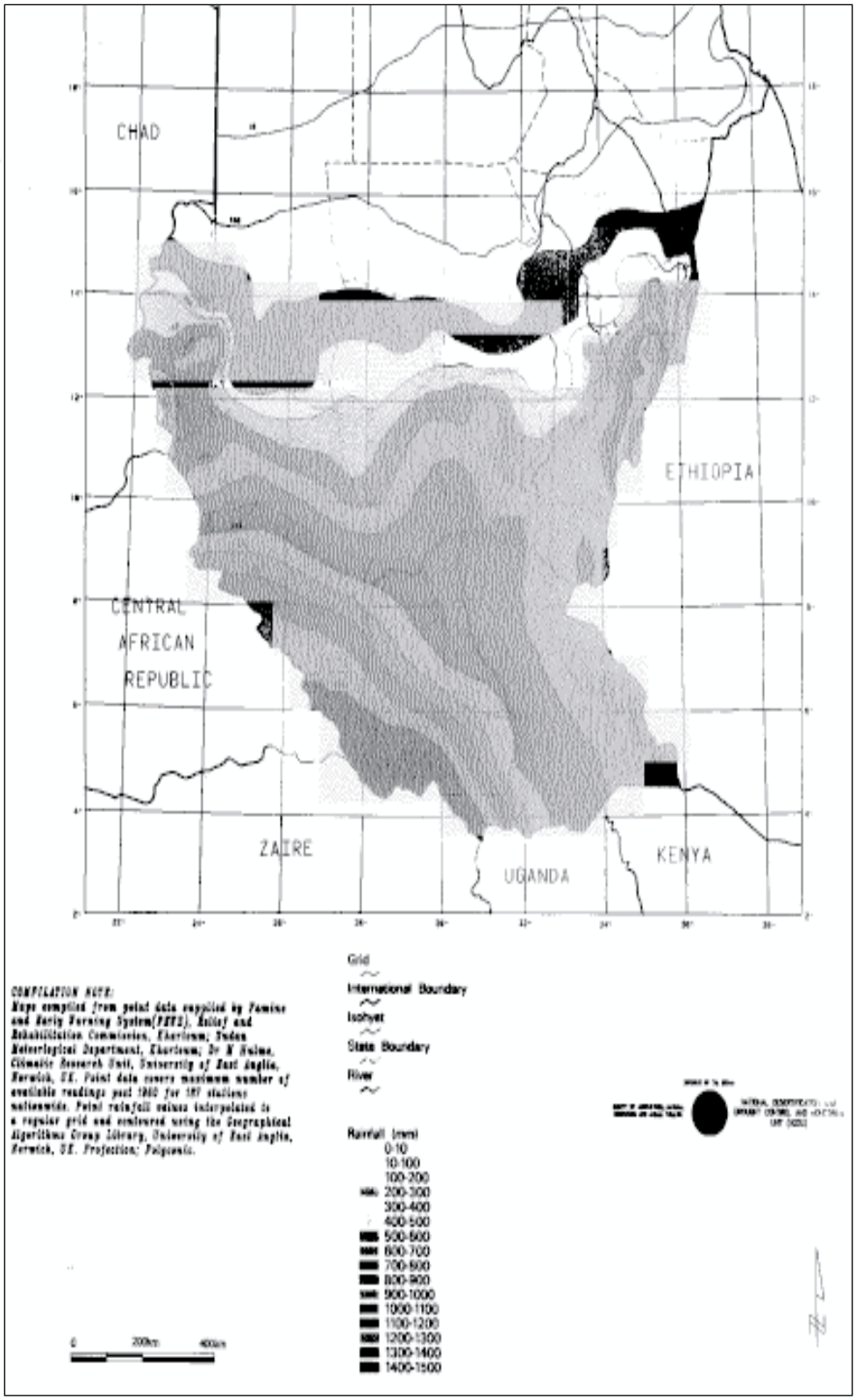

Figure 3: Rainfall 1961-1990

Dams across the Nile in Sudan have serious siltation problems. This is due to the high load transported down from the Ethiopian Plateau as well as from degraded watersheds. Lower water current velocities are a consequence of decreased volume of discharge. This makes Sudanese rivers vulnerable to invasion by weeds and water-related diseases. Perhaps the Nile is one of the least polluted rivers in the world. Sources of contamination include sugar estates, power plants and agricultural chemicals. The infrastructure of rainwater drainage systems has deteriorated of late. Incidences of malaria and enteric diseases are prevalent during the rainy season. The wide use of domestic water storage tanks has also made malaria a domestic disease.

DETERIORATION IN BIODIVERSITY

The annual rate of deforestation is close to 504 thousand hectares. Only 30,000 ha are reforested. We lost a number of wild life species in the last two decades; many more are endangered or vulnerable. This is mostly due to habitat destruction. Several grasses and herbs have disappeared due to overgrazing, repeated droughts and fires. Fires are responsible for the annual loss of 30% dry fodder otherwise available to wild life and the 103 million heads of livestock.

Awareness and sensitivity to environmental issues is weak among the public and the policy makers.

It must be stressed that the overwhelming limitations of land use in Sudan are the periodic droughts experienced in the Sahelian Belt. Population distribution is inversely proportional to vegetational cover in such a way that 78% of the Sudanese inhabit northern areas with only 33% of cover (which already decreased to 18%). The remaining 22% inhabit the southern parts with 67% of the forest area.

Most of the economic development was established in northern parts of the country. Horizontal expansion in large-scale rain-fed mechanized agriculture replaced the traditional subsistence one. The areas under plough are currently 36 million feddans for the rain-fed sector and 4 million for the irrigated sector. Productivity is very low not withstanding the use of agricultural chemicals and hydrocarbon fuel. Farming marginal lands (with precipitation less than 300m) is particularly disastrous. Farming and distorting flood plains seasonal watercourses have far reaching effects.

ENVIRONMENTAL PROBLEMS

Environmental problems of Sudan can be summarized as follows: Recurring droughts and desertification have led to an increase in environmental consciousness. The fact that environmental issues affect all aspects of life in the country is gaining acceptance.

The basic environmental problems of Sudan are related to the absence of an acceptable strategic master land use plan, the growing conflicts in land use policies, the depletion of natural resources and the unchecked population growth (due to lack of a coherent Population Policy).

These problems are made worse by the limited perception of the environmental issues as well as the total neglect for the impacts of agricultural policies. The adoption of 'modernization' in agriculture (which is actually not modernization but horizontal expansion in agricultural practices with very little vertical direction) has become an instrument of interference in the traditional sector and takes away from its resources the lands, forests, ranges, pastures and wildlife.

A listing of environmental problems include:

- horizontal expansion in rain-fed and irrigated agriculture ;
- the complete absence of the environmental dimensions in policies, strategies, plans and programs of management of resources;
- development is random and environmental evaluation does exist before or after execution of projects;)
- the economy and society, in spite of the century-long attempts at 'modernization' are still dominated by subsistence way of living;
- the economy is still affected seriously by the yearly, seasonal and geographical variability of rainfall for crop and livestock production;
- dependence on imported seeds and agricultural chemicals has increased cost of production;
- loss of land productivity and marketing policies decreased cash surplus;
- the civil war in the South has grave economic and social costs;
- population distribution and rural-urban migration due to desertification and civil strife has led to deterioration of natural resources, indigenous knowledge and loss of local culture and dignity;
- problems of poor sanitation, limited industrial pollution and food hygiene have become more complex;
- the energy crisis is aggravating desertification and affecting climate charge;
- vast water resources are badly managed;
- environmental education has only been recently incorporated in school curricula; and
- laws and legislation concerning the environment are not effective and law enforcement measures are not integrated.

CONCLUDING REMARKS

Colonial powers followed two main approaches to guiding development policies and investment. The first could be called the 'transformation approach' which meant the total restructuring of societies and ecosystems. The second is the 'improvement approach' where change was gradual. After independence many African countries fell into the grave trap and misconception of adopting the western model of development. Many were encouraged to choose capital-intensive, large-scale food production schemes as a way out. This has ultimately led to food scarcity. Sub-Saharan Africa is perhaps the only region in the world where food production has declined in the past 30 years. Per capita food consumption in 1980 for example was 15% below that at the start of the 1970s and almost 2% below that at the start of the 1960s.

Sudan is perhaps a classic example of a developing country trapped in the so called western model of development. After independence, the slogan was to 'catch up' and to achieve a revolutionary jump. We only attained a harvest of dust. What Africa needs is an alternative pattern of development.

It is no help that industrialized countries also depend on tropical resources, to a great extent, without a genuine involvement in conservation or payment of the environmental costs of overexploitation. Only recently have interest and commitment to Environmental Impact Assessment practices become mandatory by donors when executing new development projects. Of these is the development of a massive infrastructure to cope with the newly discovered oil wealth. Some of these efforts, I am afraid, are not taken very seriously.

Brain drain, poor infrastructure and attempts to rapidly modernize the economy have resulted in mismanagement of the vast resources and consequently in unsustainable social and economic development.

Gloomy as it seems, nevertheless, there is still light at the end of the tunnel! Recurring environmental disasters have made Sudanese both conscious and sensitive to environmental issues. Environmental curricula are now taught in schools. The Institute of Environmental Studies, of the University of Khartoum, is the proud father of more than 3000 Masters of Science, over a span of almost 20 years. Several Sudanese universities teach environmental curricula and management courses of natural resources. On the official level, a Higher Council of the Environment and Natural Resources has been established recently. Subsequently a Ministry of The Environment and Tourism was created.

Voluntary work is deeply rooted in the Sudanese culture. Thus the sprouting numbers of NGOs and CBOs came naturally after the Sahelian drought of the early 70s. Traditionally the 'Naffer' (during the harvest times and tasks like building homes) becomes a seasonal collective task of the

communities. The 'Fazza'(facing calamities or livestock theft or apprehending aggressors) is occasional.

A leading NGO is the Sudanese Environmental Conservation Society (SECS), established in 1975. It has more than 80 branches across the country with a membership of over 8,000. Following the INCD sessions a desertification network was established (RIOD). The Network connects national NGOs across the country, Africa and the Globe. The Sudan Women's Network is one of them.

LIST OF RELEVANT PUBLICATIONS AND OTHER SOURCE MATERIAL

Callaghan, T.V; Bacon, P.J; Lindley, D.K and Moghraby, A.I.el 1985, The Energy Crises in Sudan; alternative supplies of biomass, *Biomass 8.* 217-232.

Cave F.0 and McDonald J.D 1958, *Birds of Sudan.* Oliver and Boyd, UK.

Hammerton, D 1964, *Hydrobiological Research in Sudan.* Sudan Phil. Soc. 12 th Annual Symposium. Khartoum.

Harrison, M.N. and Jackson,J.K 1958, Ecological Classification of Vegetation Of Sudan. *Bulletin No. 2.* 1-45 Forest Dept. Khartoum.

Moghraby,A.I.el 1982, The Jonglei Canal – A Needed Development or Potential ecodisaster? *Env.Cons.*9 (2) 141-148.

Mohmmed,Y.A; Nimer, N.B; and Moghraby A.I.el 1996, Policy profiles Africa *Biodiversity Series- Sudan*, UNEP/ACI.

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Key words

Sudan

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Institutionalization of environmental assessment in the public sector – a strategic approach

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ABSTRACT

Under the Pakistan Environmental Protection Ordinance 1983, Environmental Assessment is a requirement for all developmental projects in the country. After the approval of the Pakistan Environmental Protection Act in 1998 it is now mandatory for all developmental projects to carry out environmental assessment before approval, thus making environmental assessment the most direct and effective means of combining development and conservation. To integrate environmental procedures and results in policy and decision making, the North-West Frontier Province (NWFP) is the leading province to have identified/indicated environmental planning, management and assessment as an immediate priority under the auspices of Sarhad Provincial Conservation Strategy (SPCS), a sustainable development agenda for the province. Under the SPCS, various measures have been taken for institutionalizing environmental assessment in the operations of government departments. These measures include: modification of PC-I to include environmental impact; and the use of PC-II for financing EIA (PC-1 and II are the main planning documents of the government for project appraisal and approval); building capacity in environmental management and assessment of the planning staff of the government departments through various training courses such as policy analysis using strategic environmental assessment; public participation; and the establishment of an Environment Section and Environment Wing in the Planning & Development Department, the sole provincial department where all developmental projects go for approval. Moreover, an Environmental Cell has been established in the Local Government Department.

Recognizing the need for environmental assessment and its use as a comprehensive and versatile instrument for achieving sustainable development, this paper will discuss how environmental concerns and assessments are being incorporated in policy and decision making processes of the provincial government of NWFP, and what efforts and measures have been taken so far in this area.

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INTRODUCTION

The North-West Frontier Province (NWFP) of Pakistan is richly endowed with natural resources including prime agricultural land, scenic landscapes, abundant forests and wildlife, a vast mineral resources base, a rich ancient culture, a network of rivers and streams, and a diverse climate. Some of these resources, such as forests protecting the watersheds, are of vital national importance. NWFP has established, and is maintaining, a high profile in the environmental arena in Pakistan. In many respects, this province is considered as the environmental conscience of the country. The province was the first to begin the implementation of Pakistan's National Conservation Strategy when it decided to prepare the Sarhad Provincial Conservation Strategy in 1992. Other provinces are now following this lead and setting up similar strategic planning processes.

Keeping in view the continuing degradation of the environment, the government of NWFP is in the process of incorporating environmental procedures into developmental policies and plans. Presently, as in the past, the main focus of the provincial government is on institutionalization of environmental planning, management and procedures. Also there is an emphasis by the government on capacity building, as there is a need to build the capacity of professionals both from the public and private sectors in environmental planning, management and assessment.

NATURE AND SCOPE OF ISSUES

The most pressing environmental problems in the NWFP can be listed as increasing population; narrow rural economic base; exodus to urban centres; congestion and pollution; brunt of Afghan refugees; water-borne diseases; deforestation; lack of awareness, education and research; and inadequate institutional infrastructure.

With the enactment of the Pakistan Environmental Protection Act in 1998, it is now mandatory to conduct environmental assessment for all developmental projects. However, like other developing countries, Pakistan did not have the institutional mechanisms or the professional capacity to effectively undertake environmental assessments, and this was particularly the case in government departments. In the public sector, there are very few organizations with an exclusive environmental mandate, including the Environment Section of the Planning, Development and Environment Department (PE&D) and the Environmental Protection Agency (EPA). Both organizations are relatively new and still trying to establish their position in the provincial and national bureaucracy.

PROCESS AND PROCEDURAL CONTEXT

To secure economic, social and ecological well being of the people of NWFP through conservation and sustainable development of natural resources, the

government of NWFP in collaboration with The World Conservation Union (IUCN), developed the Sarhad Provincial Conservation Strategy (SPCS). The main aim of this strategy is to integrate environmental concerns in the development agenda to ensure sustainable development of natural and renewable resources for human survival.

Environmental assessment is becoming the primary means of managing the approval of new development proposals in NWFP. Under the 1998 legislation, along with new private sector projects and industrial projects to obtain approval, public sector projects now unambiguously require environmental assessment. Under the government policy decision, there are certain institutions which will be responsible for the processing and review of environmental reports, such as EIA & IEE. In addition, the Pakistan EPA intends to delegate its responsibility for the review of environmental reports to the Provinces. Guidelines have been developed for this. In addition, the government of NWFP with the assistance of donor organizations, has started projects that should lead to the strengthening of these two essential organizations as well as other line departments.

The following are the main institutions involved in environmental planning, management, and assessment of projects in the province of NWFP:

- The Planning Environment and Development Department (PE&DD) Environment Wing and Environment Section;
- The NWFP Environmental Protection Agency; and
- Government Line Departments.

INSTITUTIONALISATION MECHANISMS, MEASURES AND APPROACHES

Since the Province of NWFP is also faced with several environment-related problems various legislative, institutional, fiscal, policy and supportive measures have been initiated by the government to integrate environmental procedures into its developmental plans in order to improve the environmental situation of the Province. The mandate of the environment portfolio was given to the Planning and Development Department which changed its name to the Planning, Environment and Development Department so as to integrate environmental concerns into the government developmental policies and plans.

The following are the various measures being undertaken in order to institutionalize the environment into developmental work of the public sector by the government of NWFP.

Institutional measures
To initiate and expedite environmental planning, management and assessment processes in the public sector, various institutional measures have been taken. These include:

Establishment of NWFP Environmental Protection Agency

To enforce environmental laws, National Environmental Quality Standards (NEQS), to create mass awareness and to conduct environmental research, the provincial government of NWFP created a provincial Environmental Protection Agency in 1989 through an administrative order, under the control of PE&D Department. This is the prime regulatory agency in province, mandated to institutionalize EA process.

Creation of the Environment Wing

In order to streamline, strengthen and clarify the roles of the provincial EPA and the Environment section, an Environment Wing was created in 1996 within the PE&D Department. The Environment Wing headed by an Additional Secretary is to look after the environmental affairs in the Province. The Wing has responsibility for planning, implementing and monitoring all environment-related activities in the NWFP – including the supervision of the EPA. This measure ensures much better coordination among environment sector projects and expedites the various initiatives of the GoNWFP to improve the environmental scenario.

Establishment of an Environmental Protection Cell in the Local Government (LG) Department

To adopt the Pakistan Environment Protection Act (PEPA) 1998, an Environmental Protection Cell has recently been established in the LG Department. The main purpose of this Cell is to integrate environmental concerns in the developmental plans of the department and to build the capacity of the departmental staff in environmental planning and management. In addition, this Cell provides coordination for environment related projects to expedite the various initiatives of the GoNWFP in improving the environment. This is the first local government department in the country to have a unit dealing with environmental issues.

Provincial Environment Protection Council

A Provincial Environment Protection Council has been constituted with representation at the Ministerial level. The Council is headed by the Chief Minister. Public participation is also ensured through representation from the NGO Sector, Industrial sector and Agriculture sector.

Establishment of SPCS Round Tables

Considering the usefulness of broad-based public consultations, Round Tables have been established in various government departments. The primary objective of these Round Tables is to incorporate public input into the planning process of the government. So far, Round Tables in the following sectors have been established and made functional: Urban Environment; Industries; Education; NGOs; Communication; and Agriculture. These Round Tables provide a forum for civil society input into public sector development planning process.

Establishment of an Environmental Planning and Management Department, University of Peshawar

To introduce and improve university curricula in environmental science, of which environmental assessment forms an integral part, an Environmental Planning & Management Department has been established in the University of Peshawar.

Legislative measures

Proper legislation is needed to provide the legal framework within which various fiscal and policy measures can be effectively undertaken to ensure large-scale adoption of supportive measures aimed at improvement of environment. Initiatives in this critical area are described below.

NWFP Environment Protection Act

A draft Environment Protection Act for the NWFP has been prepared. The Act is based on the outcomes of active public participation in a workshop on Environmental Legislation as well as through the key recommendations of the SPCS.

Policy measures

Provincial policy, coordination and the screening of development projects for environmental impact are the responsibilities of the PE&D Department through its Environment Section and the Environmental Protection Agency (EPA). The Environment Section's main tasks are: to address urgent concerns through the formulation of appropriate pilot projects in support of the SPCS; to subject the development planning process to environmental impact screening; and to develop provincial environmental legislation.

A number of policy-level steps have been undertaken to facilitate the process of incorporating environmental measures into the sectoral priorities of relevant line departments, these are:

Sarhad Provincial Conservation Strategy (SPCS)

In response to the need to implement the National Conservation Strategy (NCS) which was adopted by the Government of Pakistan in 1992, the Government of NWFP, in Collaboration with IUCN, developed a strategic environmental planning document known as Sarhad Provincial Conservation Strategy (SPCS).

District conservation strategies

While the SPCS is a broad-based sustainable development agenda for the Province, due consideration is also being given to the expedition of the Local Agenda 21 process through the formulation of district conservation strategies. Work has commenced on Chitral and Abbottabad Conservation Strategies.

Capacity building

In order to gain acceptance of the implementation of environment-related initiatives from policy-makers, bureaucrats, decision-makers, implementers, private sector developers, NGOs, and concerned citizens, a series of awareness raising seminars/workshops have been organized, together with short-term modules/courses in environmental planning and management for the planning officers of various government agencies.

Supportive measures

Besides undertaking the above policy and regulatory steps, the GoNWFP has also taken numerous supportive measures, as detailed below, to institutionalize environmental protection into its development process:

'Greening' of the Annual Development Plans

Key recommendations of the SPCS action plans, pertaining to different sectors, have been incorporated in the respective Annual Development Plans (Ads) of various line departments and the Environment Wing. Besides SPCS projects, almost all relevant departments have endeavoured to include environment-related projects into their respective Ads.

Environmental Impact Assessment (EIA) Unit

The capacity of the EPA to carry-out EIAs has been enhanced under the World Bank funded project, i.e. Environmental Protection and Resource Conservation Project through establishment of an EIA Unit. This will enable the GoNWFP to review all public development projects for conformity with the GOP's environmental policies.

Various factors are involved in the institutionalization process of environment and EA in the developmental plans, policies and procedures of public sector. The following are the main causes of the environmental movement in the province of NWFP:

- interest and support of the pro-environment bureaucrats;
- support from some senior politicians;
- demand and support of the donor agencies;
- availability of funds; and
- availability of local experts.

LESSONS LEARNED/CONCLUSION

As environmental assessment is increasingly undertaken as a planning tool and mechanism for decision-making processes to address environmental issues, the system developing in NWFP public sector has to some extent been successful in integrating environmental considerations into various development projects.

Although a new focus of attention, environmental management and assessment is rapidly gaining recognition and popularity in North-West Frontier Province (NWFP). As mentioned earlier, the Government of NWFP has started to formulate the Sarhad Provincial Conservation Strategy (SPCS), which has resulted in a comprehensive policy for managing the environment in NWFP. Organizations responsible for initiating proper environmental management have been created and are in the process of strengthening.

Donor organizations can play an important role in pushing government agencies to formulate environmental procedures as part of identifying projects, in order to contribute in the improvement of environmental management.

The development of the required institutional capacity should be understood to be an ongoing process. This implies that environmental problems cannot be solved (only) by applying a technical solution, which has been introduced from the outside. Development of capacity in the environment should, among other things, be process oriented with strengthened institutional support and be owned by the local society, in this case NWFP.

The success and effectiveness of environmental management policies will depend on the availability of effective policy instruments. Successful attempts to develop environmental capacity in order to improve environmental management will require a strong commitment, both from the government and the main donor organizations; the two most important actors in the development process in NWFP.

With the emergence of new institutions, policies and programmes for the environment, there is a need for thoughtful assignment of institutional roles. For example, which functions belong to the government, which to the NGOs, and which can be addressed by the private sector? Traditional roles need reiteration as well as review within Government.

Improvement of environmental management in a province or region will depend on the financial scope that exists for strengthening capacity in the environment, carrying out environment-oriented research, and implementing environment-oriented projects.

In general, to integrate environmental assessment/concerns into the developmental plans, policies and projects, there need to be a number of critical elements in place, such as:

- support and commitment from bureaucracy;
- political support and will;
- development of such mechanisms through which environmental concerns could be incorporated institutionally ;

- support from the international donor agencies;
- a clearly enunciated legislative mandate for Environmental issues; and
- a body of policy makers, planners, and decision makers well-versed in Environmental planning,

LIST OF RELEVANT PUBLISHED PAPERS AND OTHER SOURCE MATERIAL

Sarhad Provincial Conservation Strategy, Peshawar, Pakistan, 1996.

Environmental Profile of NWFP, a report prepared by DHV Consultants, Peshawar, 1994.

Participatory Strategic Planning for Strengthening EIA Capacity, IUCN, Nepal, 1996.

Institutional Framework, DHV Consultants, Peshawar, 1997.

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strategic environmental assessment

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Devolution of environmental regulation: EIA in Malaysia

Ali Memon

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.

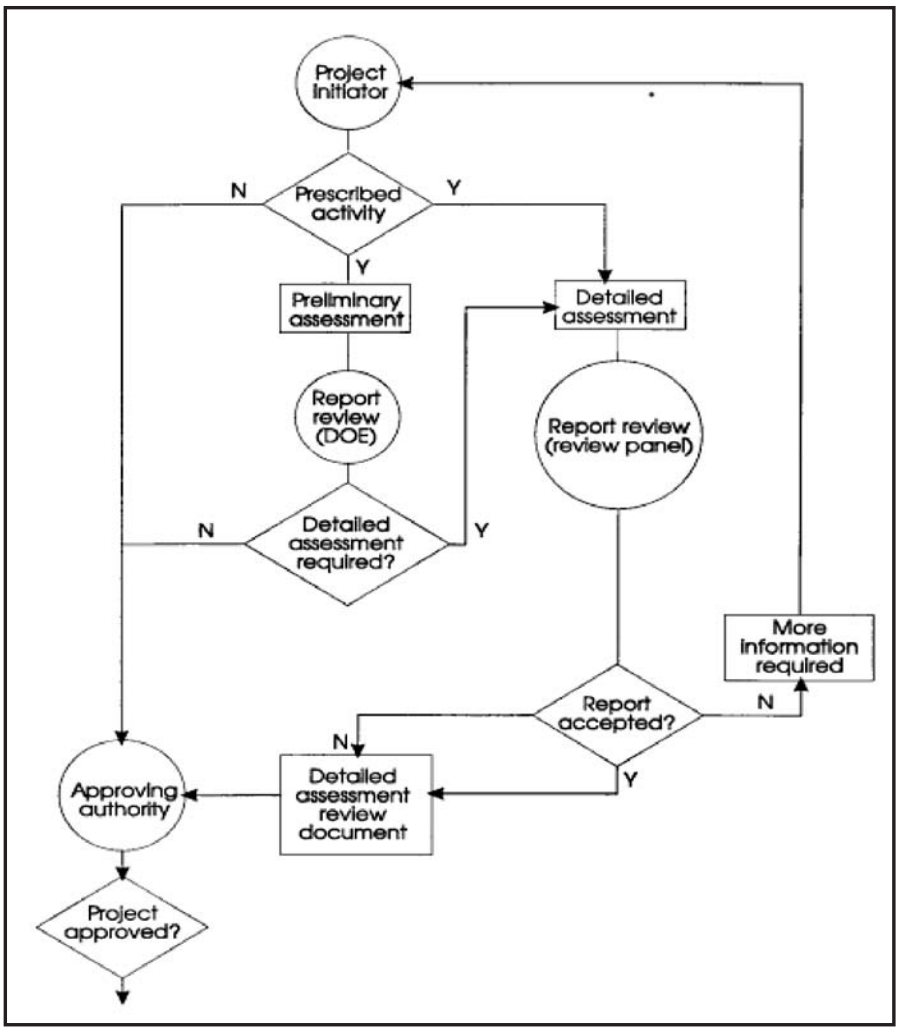

Figure 1: Federal environmental impact6 assessment procedures, Malaysia

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.

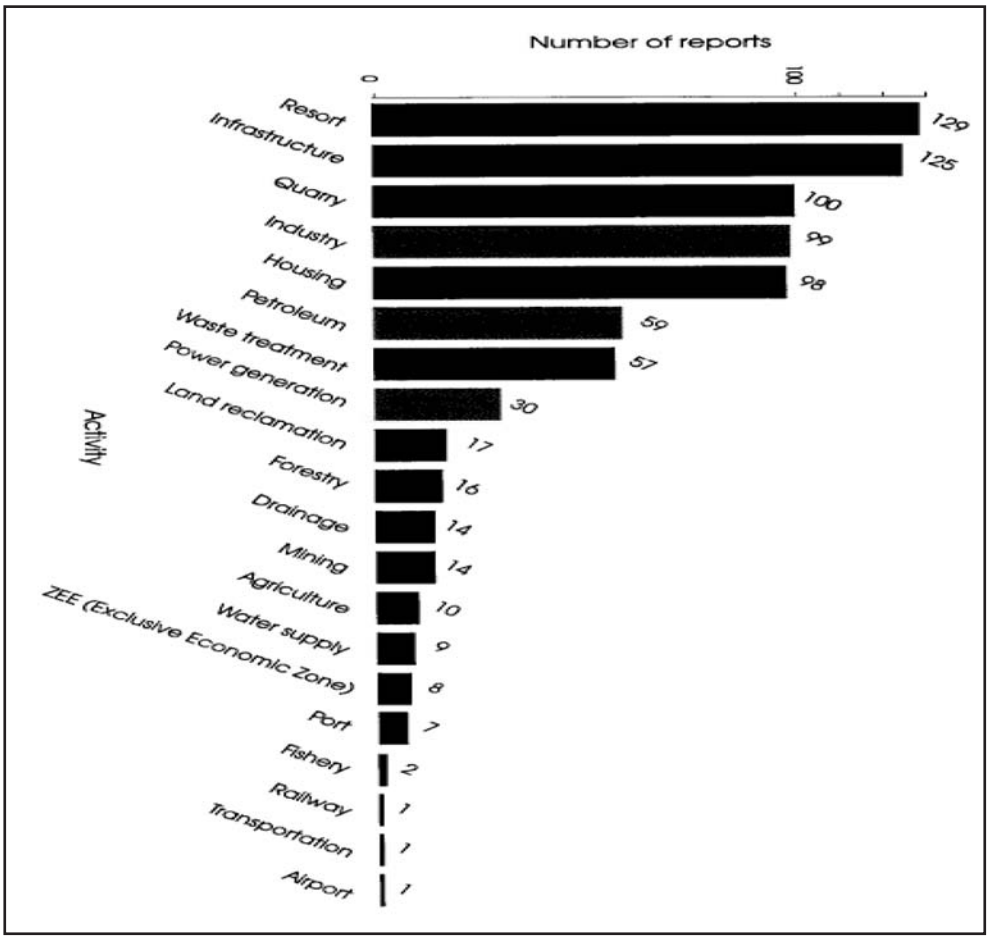

Figure 2: Federal EIA reports according to prescribed activities, Malaysia 1988-93

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.

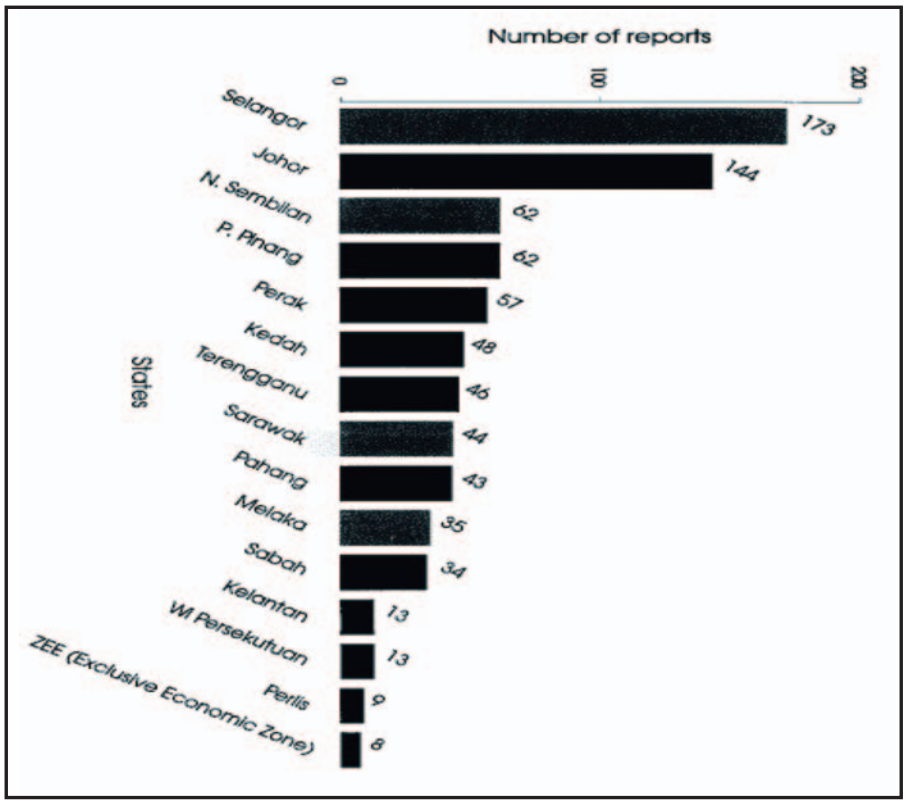

Figure 3: Federal EIA reports by States, Malaysia 1988-93

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.

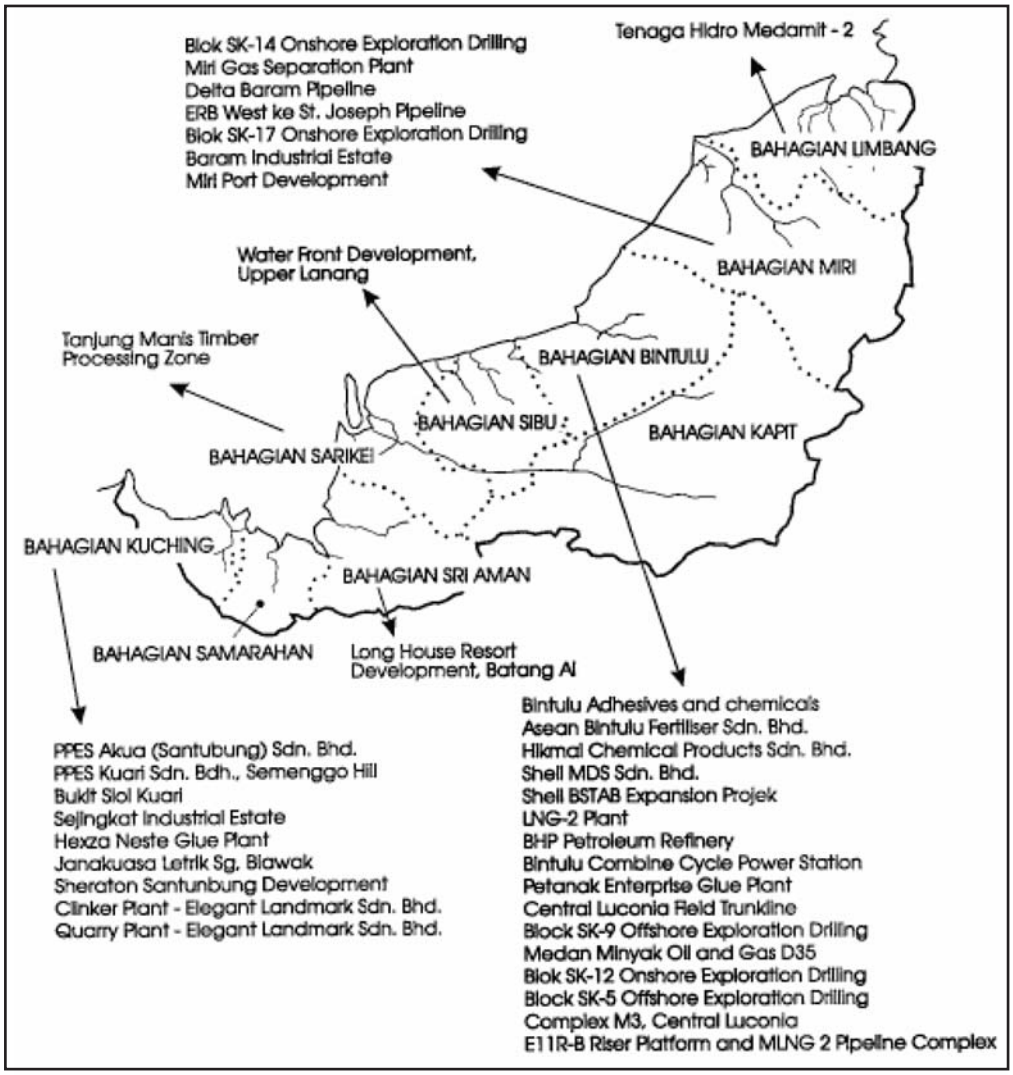

Figure 4: Geographic distribution of Federal EIA reports in Sarawak, 1988-93

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.

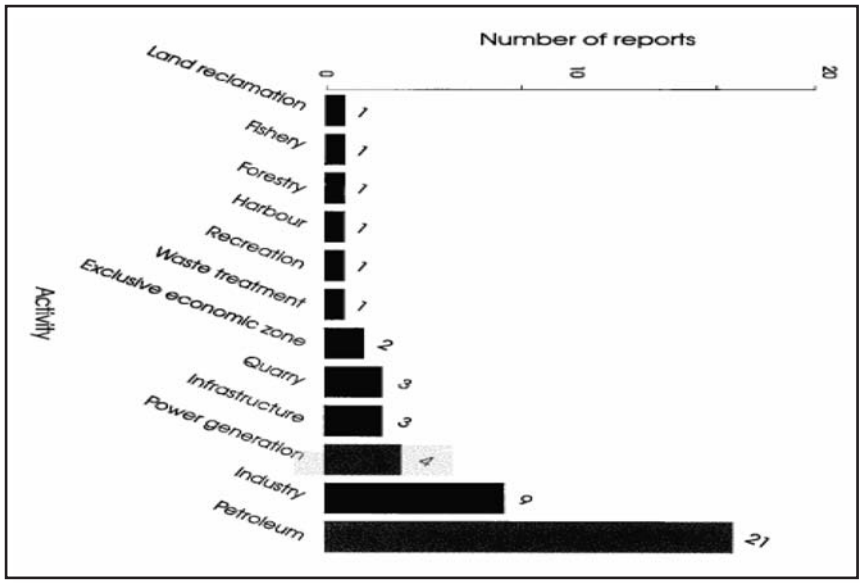

Figure 5: Federal EIA Reports according to prescribed activities, Sarawak 1988-93

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.

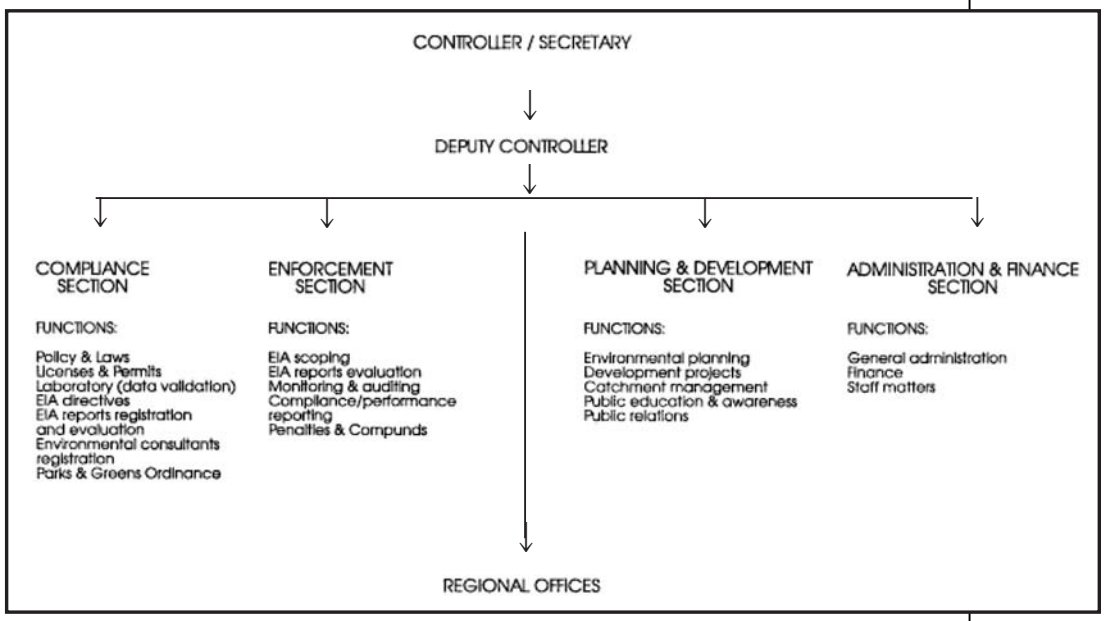

Figure 6: Organisation and function of the NREB

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.

Acknowledgments: I wish to acknowledge my gratitude to Mr. James Dawos Mamit, Controller of Environmental Quality in Sarawak and to the staff of the Department

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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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Environmental impact assessment in Nigeria: regulatory background and procedural framework

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ABSTRACT

As a consequence of the illegal dumping of toxic wastes in Koko, in the former Bendel State, in 1987, the Nigerian Government promulgated the Harmful Wastes Decree which provides the legal framework for the effective control of the disposal of toxic and hazardous waste into any environment within the confines of Nigeria. This was immediately followed by the creation of a regulatory body, the Federal Environmental Protection Agency (FEPA) in 1988. FEPA is charged with the overall responsibility of protecting and developing the Nigerian environment. To put this into action a National Policy on the Environment was developed. This is the main working document for the preservation and protection of the Nigerian environment. States and Local Government Councils were also encouraged to establish their own environmental regulatory bodies for the purpose of maintaining good environmental quality as it applies to their particular terrain.

The EIA Decree No. 86 of 1992 is an additional document with the same aim of protecting the Nigerian environment. It is particularly directed at regulating the industrialization process with due regard to the environment. By this Decree, no industrial plan/development/activity falling under the FEPA's mandatory list can be executed without prior consideration of the environmental consequences of such a proposed action, in the form of an environmental impact assessment.

The Department of Petroleum Resources (DPR), an arm of the Ministry of Petroleum Resources, recognizing the national importance of the oil and gas industry sector to the continued growth of the Nigerian economy and realizing that the continued exploitation, exploration and production of the oil resources has serious environmental impacts, also decided to set out comprehensive standards and guidelines to direct the execution of projects with proper consideration for the environment. The DPR Environmental Guidelines and Standards (EGAS) of 1991 for the petroleum industry is a comprehensive working document with serious consideration for the preservation and protection of the Niger Delta, and thus the Nigerian

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Law, policy and institutional arrangements

environment, in the course of searching for and producing crude oil. The EIA tool is also mandatory for a greater part of the oil E&P activities.

But a detailed examination of the various statutes, and the framework for the EIA process in particular, and the entire environmental regulatory process in general, reveals that many of the statutes are very much at variance with intentions, especially as they affect the execution of functions. There is duplication of functions and overlapping responsibilities in the processes and procedures guiding the execution of the various impact assessment tasks. Consequently, serious bottlenecks and bureaucratic confusion are created in the process. The result is a waste of resources, financially and materially.

This paper examines the statutory regulatory framework for the EIA process, and the inadequacies and misinterpretations of the various statutes, which have often led to delays in the execution of EIAs in Nigeria. An attempt will be made to streamline these various responsibilities through a reorganization of the regulatory environmental framework. This way, it is hoped that the bottlenecks and wastage of resources will be eliminated.

INTRODUCTION

Nigeria (Africa's most populous nation), independent since 1960, occupies an area of 923,768 km^2 with varied climates and seasons. Presently, its estimated population is over 100 million people.

Prior to oil, agriculture (before 1970) was the economic mainstay. With financial resources available from oil and no development policy, unguided urbanization and industrialization took place. Uncontrolled population growth, desertification, and deforestation led to degradation and devastation of the environment.

As desirable and necessary as development is, it became an albatross not of itself but because of the lack of appropriate policies to guide it.

There were several sectoral regulations aimed at controlling environmental degradation which were unsuccessful due to the absence of effective sanctions. Economic considerations and fundamental lack of knowledge of interdependent linkages among development processes and environmental factors, as well as human and natural resources, resulted in an unmitigated assault on the environment. However, the environment and the need for its preservation (in spite of all efforts by United Nations Environment Program [UNEP] and International Conventions which Nigeria ratified), took centre stage after the momentous and singular event of the secret dumping of toxic waste in Koko Port, Bendel State (now Delta State) in May 1988 by foreign parties. This was followed by the promulgation of the Harmful Wastes (Special Criminal Provisions) Act 1990. In its wake, international seminars and workshops were held in Abuja and Lagos and the consensus was for

appropriate environmental legislation to discourage short-term plans and 'fire brigade' approaches to environmental issues.

An institutional framework was set up to deal with the problems of our environment. The Federal Environmental Protection Agency (FEPA), established by Decree 58 of 1988 of the same name and amended by Decree 59 of 1992, was given responsibility for control over our environment and for the development of processes and policies to achieve this. Apart from publishing the National Policy on the Environment (NPE) in 1989, with the policy goal of achieving sustainable development, it published other sectoral regulations including the National Environmental Protection (Pollution Abatement in Industries and Facilities Generating Wastes) Regulation 1991 wherein EIA was made obligatory only when so demanded by FEPA and compliance was within 90 days of such demand. However in the oil industry the principal legislation is the Petroleum Act 1969 and all derivative regulations charged DPR among others with pollution abatement.

States and Local Government Councils (LG) which comprise the second and third tiers of government were encouraged under Decree 59 of 1992 to set up their own environmental protection agencies.

Separate EIA legislation, the EIA Decree 86 of 1992, was promulgated establishing FEPA as the apex regulator, making EIA mandatory for all developmental purposes (although with some exceptions). Under it FEPA has published various sectoral EIA procedures together with EIA procedural guidelines in 1995.

INSTITUTIONAL AND REGULATORY FRAMEWORK

Prior to the establishment of the FEPA there were sectoral environmental regulations with various significant responsibilities relating to environmental protection and improvement. Also in existence were commissions with advisory capacity in environmental matters and environmental NGOs.

Due to various activities and the complex combination of interdependent operations of the oil industry it, more than any other sector, adversely affects the environment.

In the oil industry DPR adopted remedial, though inadequate, enforcement tools which included compliance monitoring and the issuing of permits/licences. Studies indicated the extent of devastation the oil industry has caused to aquatic and terrestrial ecosystems and cultural and historical resources. This, coupled with the community's dissatisfaction and agitation, especially in the Ogoni and Ijaw homelands, reinforced the need for the sector to plan, protect and enhance prudently the environmental resources for a better environment.

The need to control new installations or projects with capacity to degrade the environment was also identified. This compelled DPR to issue updated Environmental Guidelines and Standards (EGAS) in 1991 providing for the first time, together with pollution abatement technology, guidelines and standards and monitoring procedures, a mandatory EIA report as enforcement tool. There are other regulatory bodies within the sector.

FEPA, charged with the protection and development of the environment, prepared a comprehensive national policy, including procedures for environmental impact assessment for, amongst others, all development projects. Enforcement powers were also prescribed. In the National Policy on the Environment (NPE), FEPA adopted a strategy that guarantees an integrated holistic and systemic view of environmental issues that leads to prior environmental assessment of proposed activities.

The other regulators including State EPAs (unnecessarily charged with similar and identical responsibilities to those of FEPA) rather than cooperating with FEDA undermine its efforts as they demand a role in the state of the environment within their areas. This occurs particularly where FEPA involves them only at the review stage in the EIA process. This creates a lot of confusion and bureaucratic delays in implementing the EIA process leading to enormous cost and unnecessary waste of time.

ENVIRONMENTAL IMPACT ASSESSMENT SYSTEM

Features

The principal legislation is Decree 86 of 1992 which made EIA mandatory for both public and private sectors for all development projects. It has three goals and thirteen principles for how these are to be achieved. The goals are:

- Before any person or authority takes a decision to undertake or authorize the undertaking of any activity that may likely or significantly affect the environment, prior consideration of its environmental effects should first be taken.
- To promote the implementation of appropriate procedures to realize the above goal.
- To seek the encouragement of the development of reciprocal procedures for notification, information exchange and consultation in activities likely to have significant trans-state (boundary) environmental effects.

FEPA categorizes mandatory study activities into three categories. (see Figure 1 below):

Category 3 activities have beneficial impacts on the environment. For Category 2 activities (unless within the Environmentally Sensitive Area) full EIA is not mandatory, while Category 1 activities require full and mandatory EIA. Either listing or an initial environmental evaluation (IEE) system is used to determine projects requiring full EIA.

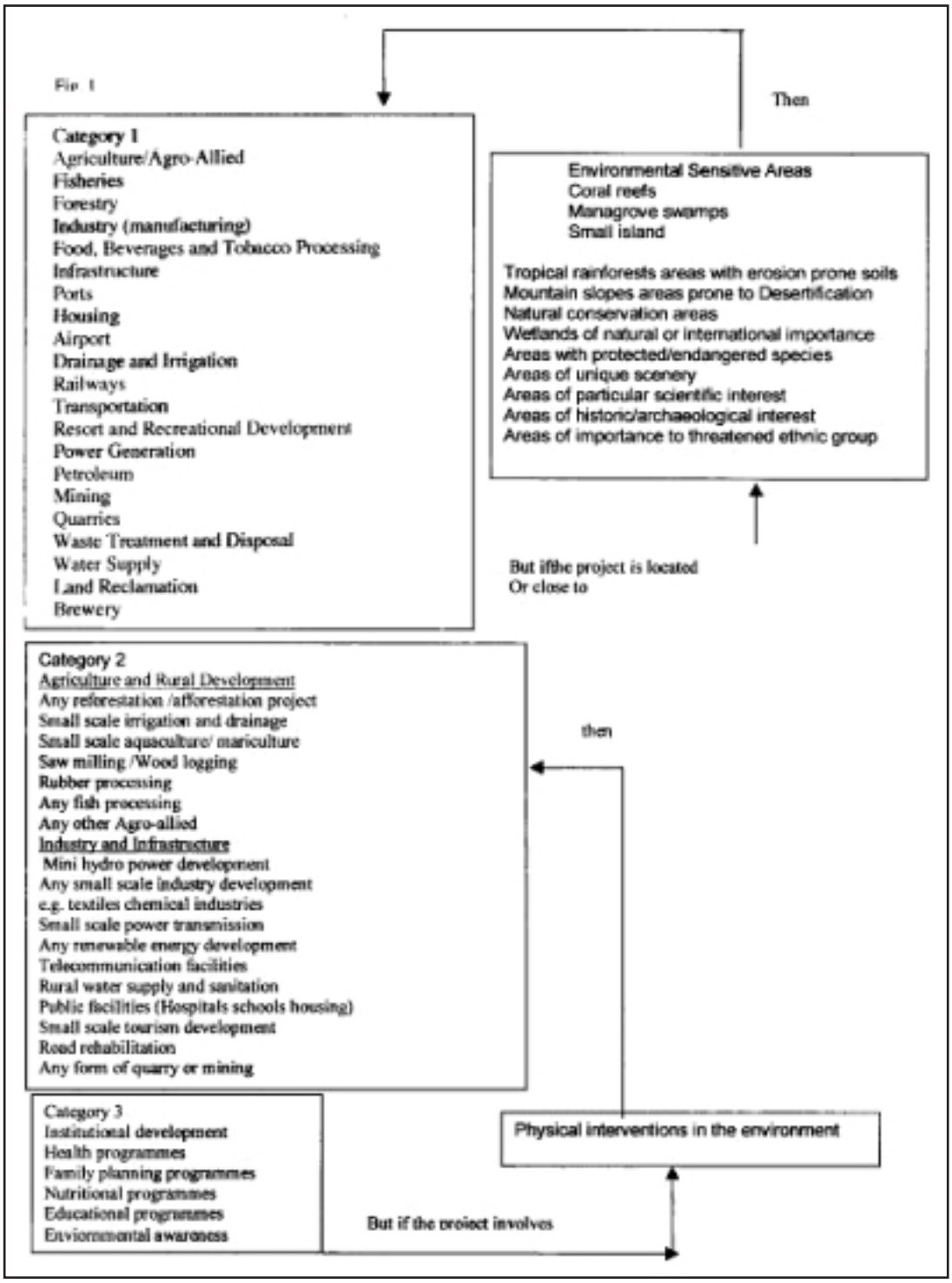

Figure 1: Category of mandatory EIA studies

The minimum requirement of an EIA report includes not only the description of the activity, potential affected environment, practical alternative, and assessment of likely or potential environmental impacts, but also identification and description of the mitigation measures, indication of gaps in knowledge, notification of trans-state adverse environmental effects (if any) and a brief non-technical summary of all the above information.

Impartial and written FEPA decisions indicating mitigation measures based on a detailed examination of environmental effects identified in the environmental impact assessment (after an opportunity within an appropriate period had been given to the stakeholders and the public for their comments) is made available to interested person(s) or group(s). It provides, where necessary, that potentially affected States or Local Government Areas are notified.

PROCESS AND PROCEDURAL FRAMEWORK

The EIA process is the various stages a project undergoes from proposal to approval for implementation, resulting in the issuing of an Environmental Impact Statement (EIS) and certificate.

The term encompasses several stages, viz:

- determining if FEPA environmental laws/regulations have been triggered;
- screening a project for potential environmental effects;
- scoping to determine the spatial and temporary dimension of environmental effects;
- carrying out detailed base line studies to determine the environmental condition prior to project implementation;
- preparing a detailed assessment report;
- carrying out a panel review of the EIA report if this is necessary; and
- obtaining authorization/approval, where appropriate.

For FEPA, the Director General/Chief Executive is the responsible officer.

The National Procedural Guidelines show practical steps from project conception to commissioning (see Figure 2). The steps are:

- project proposal
- initial environmental examination (IEE)/preliminary assessment
- screening
- scoping
- EIA study
- review
- decision making
- monitoring, and

- auditing.

The proponent initiates the process in writing to the responsible officer. A notification form is duly completed with all relevant information on the proposal. Using the criteria of :

- magnitude – probable severity of each potential impact;
- prevalence/extent and scope – extent to which the impact may eventually extend;
- duration and frequency – is activity short term, long term or intermittent;
- risks – probability of serious environmental effects;
- significance/importance – value attached to a specified area; and
- mitigation – measures available for associated and potential environmental effects

FEPA does internal screening (IEE) to determine the project's category under the mandatory study activities list.

Where no adverse environmental effects exist, the EIA is issued and the project commences with appropriate mitigation and monitoring measures. Otherwise within ten working days of receipt of the proposal, the screening report is sent to the proponent for scoping and the preparation of Terms of Reference (ToR). The ToR embodies the scope of the proposed EIA study and this is examined and the scope of the study defined accordingly by FEPA. The proponent carries out the study, generally using consultants, and the draft EIA report in 15 copies is submitted to the responsible officer. For this draft report to be complete it must as an annex record the results of public participation in a public form.

Within 15 working days of the receipt of the draft report, FEPA concludes evaluation of the draft and determination of the review method which it communicates to the proponent in writing. The four methods are:

- In-house review.
- Panel review (sitting may be public).
- Public review – an elaborate display of the report for 21 working days with appropriate display venues chosen by FEPA for the convenience of the public stakeholders and communities. Through newspaper advertisement FEPA invites interested groups /persons to participate.
- Mediation.

Within one month of the review process, review comments are furnished to the proponent. In this review stage, the public participates only when FEPA's chosen method of review guarantees its participation.

The final EIA report, addressing and proffering answers to review comments, is submitted within six months to the responsible officer. At this early stage, and on mutual agreement, FEPA and the proponent set

conditions establishing a follow-up program (mitigation, compliance and monitoring plan), a monitoring strategy and audit procedure. A 'no project' decision is communicated to the proponent if the review comments are adverse and/or improperly addressed in the final report and the final EIA report is unsatisfactory. The decision-making body is the FEPA technical committee chaired by the Director General/Chief Executive.

Within one month of the receipt of a final EIA report which has been adjudged as satisfactory, the committee approves and issues the Environmental Impact Statement (EIS) followed by certification by the responsible officer complete with appropriate conditions and with a validity period. Armed with the certificate, the proponent commences the project subject to the conditions and specifications contained in the EIS. If the project is not commissioned within the validity period on the certificate a revised and updated EIA report becomes necessary for revalidation.

The progress of the project is monitored to ensure compliance with all conditions and mitigation measures. Environmental audit, assessing both positive and negative impacts of the project, is carried out periodically. In its exercise of discretionary powers, FEPA refers any project likely to cause significant environmental effects that may not be mitigated (or where public concern about the project warrants it) to the FEPA council for mediation or panel review.

The EIA study team usually is a multi-disciplinary panel of experts and the report is prepared using a systematic, interdisciplinary approach incorporating all relevant analytical disciplines to provide meaningful and factual data, information and analyses. The presentation of data should be clear and concise, yet include all facts necessary to permit independent evaluation and appraisal of both the beneficial and adverse environmental effects of alternative actions. The detail provided should be commensurate with the extent and expected impact of the action and the amount of information required at the particular level of decision-making.

FEPA certifies consultants and reviewers. Only research institutions and limited liability companies of proven competence are so certified.

Sadly in the oil sector, there is confusion as a result of multiple regulators. The Department of Petroleum Resources and the State Environmental Protection Agencies have enabling instruments which permit them to conduct EIA without limitation. DPR's instrument is its regulation, EGAS 1991, which empowered it to conduct EIA, but there is no legislation so empowering it directly. The States instruments are subject to Federal enactment and other than inordinate show of relevance they are to merely monitor the process for, and on behalf of, FEPA. FEPA should as early as possible inform the relevant State EPA at its secretariat stage.

CONCLUSION AND RECOMMENDATIONS

We acknowledge that Nigeria has taken serious steps to develop effective environmental strategies by the promulgation of the EIA Decree and all the procedural guidelines. Yet there are too many regulators with similar and identical responsibilities. Harmonization and clear allocation of responsibilities has become necessary. FEPA is the apex regulator, and DPR in reliance on regulations can not usurp the responsibility of FEPA nor the State EPA when under our canon of legal interpretation, any Edict (law) in conflict with the Decree (Act) to the extent of the conflict is void. Recognition of this, and an eschewing of rivalries among the administrators, will encourage co-operation among them.

To be relevant the regulators (administrators) should be better supported and, for effective compliance monitoring and enforcement, stiffer sanctions and penalties should be prescribed and strictly adhered to. This way environmental requirements will be met and maintained. Compliance should be tied to renewal of licenses and consents and proponents should ensure that staff are highly motivated with adequate equipment and capacity building programs vigorously pursued not only by the administrators but also the proponents. The administrators should invest more in capacity building, staff motivation and provision of conducive work environments together with the necessary facilities. The government in this regard should make funds available to the secretariat. Otherwise, they become exposed to monetary inducements leaving compliance in the hands of the proponent. This is unhealthy. With basic knowledge of their responsibilities they could become more efficient and effective in improving the quality of EIA report.

The administrators should set up a databank and provide baseline data. The EIA process is in transition in Nigeria, and may take years or even decades to develop and this depends on a strong and continuous political commitment at the highest levels within and among our administrators, on the active role of an informed and involved public and on some pragmatic programs of national action and sub-regional and regional co-operation (Kampala Declaration 1989).

The natural consequence, therefore, is that experience is increasing and the need for sufficient information in the transition period is met, as has recently been undertaken by some oil companies, government and international organizations in the Niger Delta Environmental Survey (NDES). This will provide environmental baseline data for the area. We hope that it extends to other areas of the Federation.

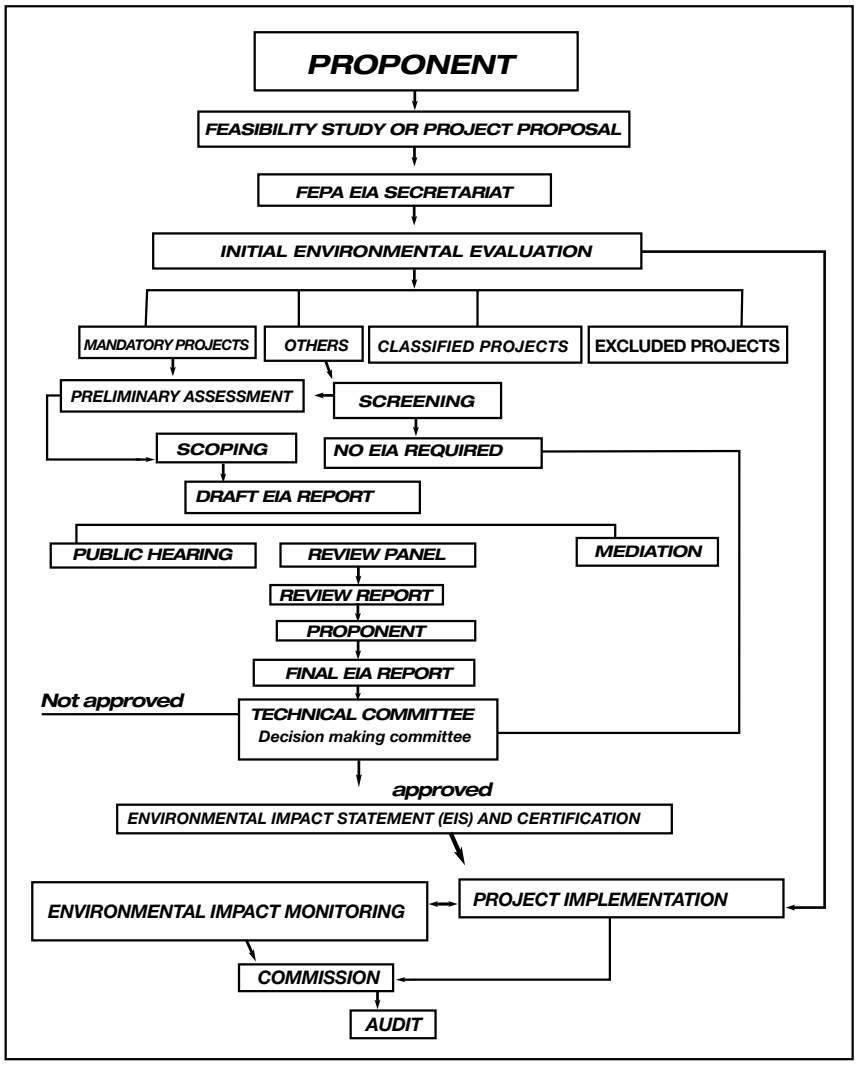

Figure 2: Flow chart of FEPA EIA procedures

Public participation is not statutorily protected yet current realities have encouraged public involvement as the communities have become aware of the need to protect the environment. Though largely illiterate and poor, and thereby vulnerable to monetary inducement in the hands of unscrupulous proponents, nevertheless their knowledge of the locality can enhance the process. In this regard the law should be reviewed.

FEPA usually involves the State EPAs only at the review stage and it has been observed that this angers them, prompting a demand for a repeat of the EIA study by the proponent, with its attendant resources wastes. Often they refused to attend public forums as FEPA officials are usually absent from these. The illiterate public, left to the mercy of the proponent, is misled. It is suggested that FEPA should involve the relevant State EPA at the secretariat stage i.e. when the proponent submits the proposal so as to enable them to monitor and participate actively in the entire process and not only in the review. In this regard, on receipt of the project proposal, FEPA should send

a copy to the other relevant agencies liaising effectively from that stage and involving the proponent. The proponent should provide assurance that the required regulations are met, using concepts of self-regulation, goal-setting and negotiated agreements to complement prescriptive legislation.

The process of accreditation by FEPA, apart from being time-consuming, cumbersome and arduous, encourages fraudulent companies to engage the services of mercenaries for the purpose of answering interview questions. We suggest that a more pragmatic and result-oriented approach should be adopted with sporadic checks of such companies. Some States insist on their own accreditation exercise despite FEPA's creating multiple accreditation. We suggest that for the process of accreditation to be accepted by all States, which should be involved in the exercise. The efforts of the environmental NGOs ought to be stepped up in the area of continuous capacity building of their members so that they can participate efficiently and meaningfully in public forums thereby enhancing the quality of the EIA report and the decisions taken arising from them.

The Law Reform Commission and Federal Ministry of Justice in conjunction with the States, environmental NGOs and interested groups and companies, should develop an integrated, co-ordinated and comprehensive legislation on the environment, removing rivalries, bureaucratic bottlenecks and areas of overlapping, duplication and confusion.

We venture, however to add that the EIA process in Nigeria if adequately handled, with the consultants involved in capacity building and the administrators highly motivated and with the Government making funds available, will result in environmental issues being built into taxation, prior approval procedures for investment, technology choices and into all components of development policies (Kontagora 1991).

LIST OF RELEVANT PUBLISHED PAPERS AND OTHER SOURCE MATERIAL

Aina E. O. A. 1989, New Direction for Sustainable Development in Nigeria, A paper delivered at the International Workshop on the Environment and Sustainable Development in Nigeria at the NICON-NOGA HILTON Hotel, Abuja.

Achieving Sustainable Development in Nigeria. National Report for the United Nations Conference on Environment and Development Rio de Janeiro, Brazil (1992).

Amid. D. Adekunle 1998, In Search of Partners in a Context of Multiple Regulators: The Perspective of an Operator in Nigeria Oil Industry. A paper presented at the International seminar on the Petroleum Industry and the Nigerian Environment Abuja Sheraton Hotel & Towers .

Anderson Brian 1996 , Environmental Issues and Management Strategies. Keynote

address at the International seminar on the Petroleum Industry and the Nigerian Environment. Port Harcourt.

Ojile M. O. 1998, *Answers to Technical Qualifying Questions for the EIA Studies.*

Raph Mulders 1997 *The State of Environmental Impact Assessment in the Developing Countries.* The Hague.

Delta State Environmental Protection Agency (DELSEPA) Edict No. 5 1997.

Rivers State Environmental Protection Agency (RSEPA) Edict No. 2 1994.

Department of Petroleum Resources (DPR), *Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (1991).*

Federal Environmental Protection Agency (FEPA) Decree 59, 1992.

National Policy on the Environment (1989).

Environmental Impact Assessment Decree 86, 1992.

FEPA *Environmental Impact Assessment procedural Guidelines (1995).*

United Nations Environment Program, *Environmental law Guidelines and Principles Environmental Impact Assessment (1991).*

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Key words

EIA process

legislative framework

institutional support

Public participation in Indonesian EIA

Sudharto P Hadi

INTRODUCTION

Public participation is a process of involving the public in a programme, project or policy. The inclusion of public participation in such processes is considered as a requirement:

> *all people and all human beings….shall have the right to live in dignity and freedom and to enjoy the fruits of social progress and should, on their part, contribute to it. (U.N, 1975:1).*

Social progress and development require the full utilization of human resources, including the encouragement of creativity under conditions of enlightened public opinion. Environmental Impact Assessment (EIA) is an instrument of environmental policy defined as a study to assess the environmental impact of planned activity. EIA is a tool for decision making about the perceived feasibility of the planned activity. Thus, the public is encouraged to take part in the EIA process.

In Indonesia, the Environmental Management Act 23 of 1997 (a revision of Act no. 4 of 1982) states that

> *every person has the right to have environmental information related to environmental management.*

This is applied to a proposed project in a certain location for which an EIA is required. Local people do have the right to have information about proposed projects to be built in their area. With such information, people can provide suggestions and comments and can raise concerns. Article 6 of the Act states that

> *every person who proposes a project is obliged to provide right and accurate information.*

This means that the project proponent must provide information about the project description. This paper reviews the practice of public involvement in the EIA process and proposes new mechanisms and techniques which are socially and culturally appropriate in the Indonesian context.

See Topic 3

UNEP EIA Training Resource Manual

Public involvement

NATURE AND SCOPE OF ISSUES

Based on the observation on the practice of Indonesian EIA since 1986, the issues of public participation include lack of public participation, the formality of the process and the inappropriateness of the techniques employed. These result in poor quality EIA documents. In other words, most EIAs fail to address the actual issues in the community.

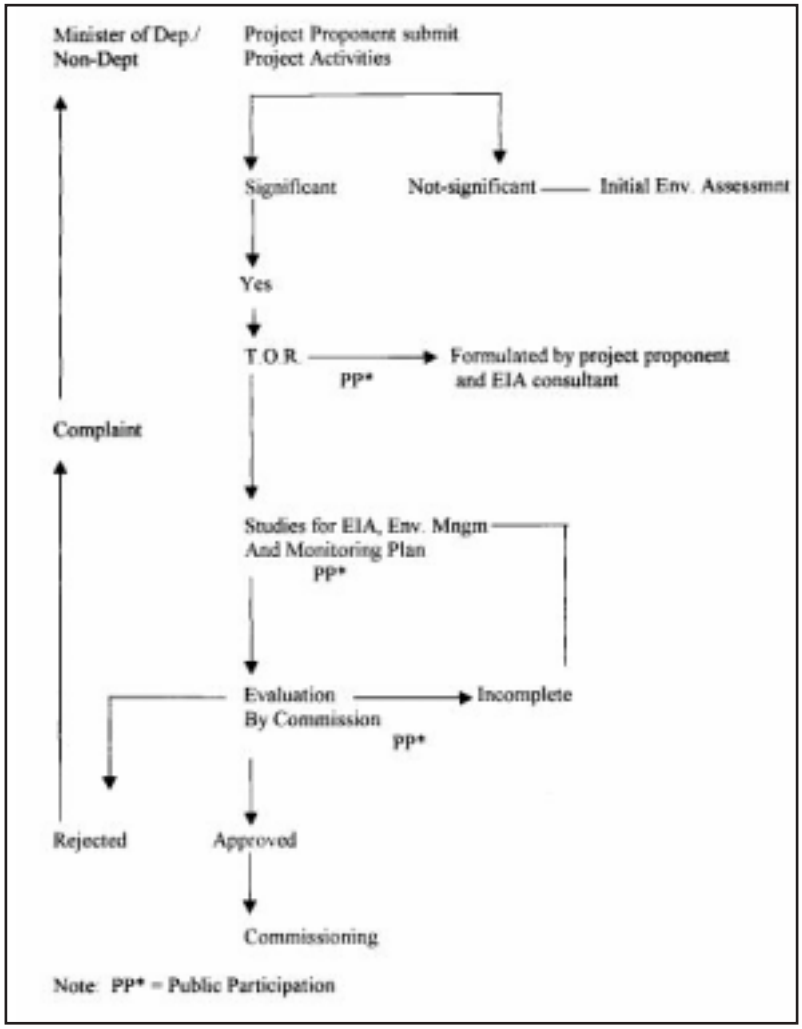

Figure 1: The procedure of public participation in EIA

THE PROCEDURE AND THE FORM OF PUBLIC PARTICIPATION

Figure 1 shows the procedure and the form of public participation in the Indonesian EIA process. The procedure is divided into three stages. These stages include the formulation of terms of reference (ToR), the EIA process and the process of evaluating or reviewing EIA.

Terms of Reference

The figure suggests that if the proposed project is categorized as a project which causes significant environmental impact, the project proponent (assisted by a consulting firm) must provide the terms of reference. To provide the terms of reference, in addition to a project description, the consulting firm requires data regarding the area of the proposed project. The consulting firm gathers the data regarding the issues. This should include an investigation of local attitudes towards the project. So there is room for the public to participate in formulating the terms of reference. Unfortunately, at this stage, local people generally do not have detailed information about the project. The project proponent usually does not provide information about the project description. The consulting firm generally relies on the secondary data gathered through village offices. Consequently, the Terms of Reference which are formulated through the scoping process, (see Figure 2) are still too broad and too general and do not address the actual issues in the community.

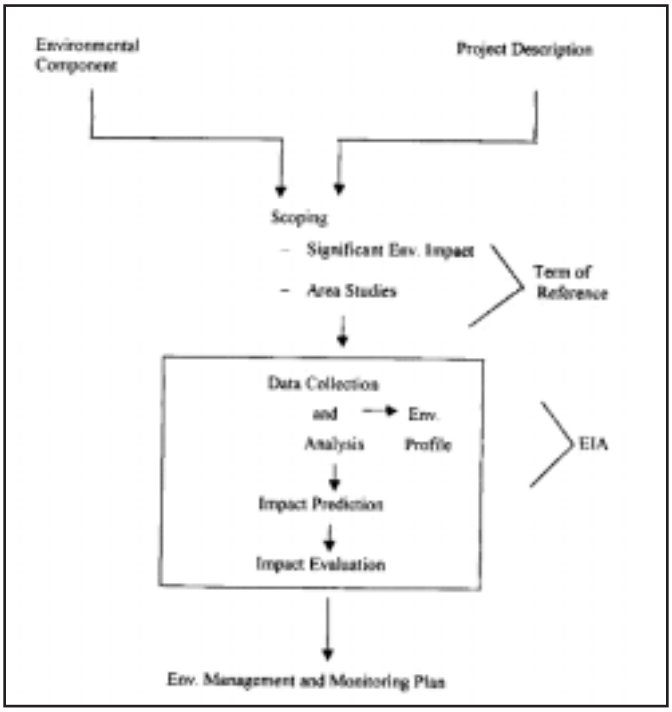

Figure 2: EIA studies process

Actually, the project proponent, as stated by government regulation and the revised draft of that regulation on EIA, is obliged to make known to the public any proposed activity which requires an Environmental Impact Assessment. When this is announced people should be able to make

comments or complaints and to provide suggestions regarding the proposed project. However, such announcements are rarely made by project proponents.

EIA studies

At this stage, local people could take part in the study by providing information through questionnaires administered through surveys. The data gathered could include socio-economic (people's income, occupation) and socio-culture (education, social relation patterns) and community health (type of diseases, health services available). The people's perception of the proposed project should also be sought. Again, because of lack of information about the proposed project, local people have difficulty in figuring out the impacts likely to be caused by the project. The most common response given by local people is that the proposed project will generate employment and job opportunities.

Evaluating EIA documents

When the draft EIA document is ready, it will be reviewed or evaluated by the EIA Commission. The task of the Commission is to comment on, and evaluate, the Terms of Reference, the EIA document and the environmental management and monitoring plan. There are three possibilities for recommendations given by the Commission including:

- the EIA is considered incomplete and will need to be revised ;
- the EIA document is approved and the project can go ahead; or
- the EIA is rejected because it is considered that there is no technological management adopted to deal with the significant impacts likely to occur. In this latter case, the project proponent can submit a complaint to the relevant Minister of Department/other agency.

According to Ministerial Decree 13 of 1994 and draft of government regulation of EIA, local people can be non-permanent members of the EIA Commission both at central and provincial levels. In practice, at the Provincial Commission, local people are frequently represented by the head of the village or district head. In the Federal (Central) Commission, local people are represented by the head of the Environment Division or the Local Government Development Planning Board. This raises the question of representativeness. Limiting participation to village or district heads does not fully meet the principle of public participation. In addition, their opinions may not substantially represent the concerns of the local people. The head of the village or district often tends to favour the project proponent.

RESULTS AND IMPLICATIONS

Formulating the Terms of Reference

There are two weaknesses in the practice of formulating the Terms of Reference. The first is lack of information about the proposed project because the project proponent does not provide information about the project. The second is the perceived over-formality in the procedures employed in gathering the data.

With little knowledge about the proposed project, people cannot identify the likely environmental impacts. When the EIA researcher collects the data, people cannot raise their concerns and issues. With regard to the procedure employed, EIA researchers rely on formal approaches such as visiting the head of the village and gathering local people in the village hall. This formal method is not appropriate. The method used is categorized as non-participative and the intensity of contact is considered low.

Undertaking EIA studies

The survey administered through face-to-face interviews theoretically produces the best information and may be necessary for a long complex questionnaire. The interviewer can see that the questions are properly understood and that the answers are properly expressed. The interviewer can probe the answers, find out why people answer the way they do, and ask open-ended questions. The interviewer also serves as a motivating force for completing the questionnaire even if it is long and difficult. However, in the Indonesian context, the face-to-face interview also has a disadvantage. Respondents will tend to answer in ways that they believe the interviewer will approve of. The respondents tend to provide the 'right' answer in order not to disappoint the interviewer. For instance, when respondents had difficulty providing information about the amount of his/her income, he/she tended to let interviewers calculate it. Whatever the result of interviewer's calculation, a respondent would agree with it. Another example was when the respondents were asked about their involvement in the community they usually said something nice, although the reality may have been different. This is because they did not want other people (moreover outsiders as interviewers) to know something bad about their community.

It can be concluded that questionnaire surveys through face-to-face interviews are only adequate for gathering 'hard data' such as educational attainment, number of households, social institutions and other services and facilities available in the community. Under the cultural circumstances of this case, this method fails to discover the real attitudes, concerns and perceptions of people; data that are essential for sound assessment, evaluation and recommendation.

Evaluating EIA documents

The evaluation of EIA is done by either the Central EIA Commission or the Regional EIA Commission. Membership of the Central Commission consists of departments related to environment, the Environmental Impact Management Agency, departments/agencies related to the proposed project, representatives of provincial and local government, the Environmental Research Centre, relevant experts, NGO and affected people. The Regional EIA Commission consists of the regional Development Planning Agency, regional Environmental Impact Management Agency, Investment Coordinating Board, other relevant departments, representatives of local government, the Environmental Research Centre, relevant experts and affected people. The evaluation of the EIA document is too formal. It is difficult for local people to participate in such a formal atmosphere. People feel powerless sitting down with high ranking officials.

LESSONS LEARNED

The effectiveness of public participation is measured by the degree of communication, the intensity of contact and the degree of influence for decision making. At the stage of formulating the terms of reference with the methods of collecting data such as field visit to informal leaders, the degree of communication and the intensity of contact are considered low. The input from informal leaders has little influence on the Terms of Reference. At the stage of the EIA studies, the survey method employed does not address the specific issues such as concerns and perception of local people regarding the proposed project. Surveys are also considered as one way communication. People only respond to the questions raised by interviewers. In other words, the method does not address the real issues. In the evaluation process, the formal meeting is not good for local people. They cannot comfortably air their concerns. They cannot actualize their concerns and aspirations. It is hard to incorporate the people's input into the EIA decision.

TOWARDS SOCIALLY RESPONSIBLE PUBLIC PARTICIPATION

Formulation of Terms of Reference

In line with the Environmental Management Act 23 of 1997, under which the project proponent has the responsibility to inform local people about proposed projects, the project proponent is obliged to provide a forum which enables people to have information about the project. The forum proposed for this is public displays and public meetings. With public displays, the project proponent provides visual displays illustrating where, when and how the proposed project will be built. Such project visualization describes clearly the purpose of the project, its location, and activities at the pre-construction, construction and operational stages. Local people (the host community) and other interested parties visit the displays and learn about the project. These public displays are then followed up by public meetings.

In these meetings people could voice their opinions, and raise concerns, complaints and questions related to project. Their input will be more directed because they have learned about the project through public displays.

The purpose of conducting public displays is to provide information about the proposed project. The strength of public displays as mentioned by Canter (1991) is that they create intensity of communication and the degree of communication is two way.

Public meetings provide forums in which the intensity of contact and the degree of two way communication is high. To apply this in the Indonesian context, the public meeting should be designed with small groups of 10 to 15 people and take place in several different locations. Such a format enables each participant to take part in the process. The participants should be divided into several homogeneous groups such as formal leaders, informal leaders, lay persons, etc. This grouping will help create an intensive discussion. Public meetings provide the opportunity to successfully identify issues and to gather feed back. In the public meeting, the EIA practitioner and project proponent can also gather ideas for formulating an environmental management and monitoring plan.

Improving EIA studies

At this stage, people have the opportunity to convey, through interviews, their opinions and perceptions regarding the proposed project. The EIA practitioners can make use of contacts that have been made during public displays and public meetings. To gather data regarding perceptions it is suggested that a conventional instrument such as a questionnaire not be used but rather that there should be an interview guide for in-depth interviewing. Respondents need to be selected through a snow balling technique by utilizing contact people. It is important to note that the quality of information is more important than the number of information providers. In other words, selecting respondents through snow balling techniques will create valid and accurate data.

The Stages of EIA Studies	Public Participation Techniques	Objectives	The Scope	Participants
Formulation of ToR	Public Displays	To inform about the project	Informative	Affected people and other relevant interests
	Public Meeting in Small Group (10-15 people) in some places	To identify issues and to solicit feed back	Consultative	Affected people consisting of village officials, informal leaders and local people

EIA studies	1. In-depth Interview 2. Focus Group Discussion	To identify feed back To get ideas for Environmental management	Informative and consultative Partnership	Affected people
Evaluation of EIA document	Public Review	To evaluate EIA document and to get feed back	Partnership	Affected people and other relevant interests

In addition to interviews, it is suggested focus group discussions be employed. Each group consists of five to seven people with similar backgrounds – for instance informal leaders, formal leaders, lay persons etc. The discussion topic is focused to solicit perceptions and opinions of local people and to seek their suggestions. The objective of collecting data is to identify the impacts, to obtain the feed back and to get suggestions for environmental management.

Evaluating the EIA

In addition to the EIA Commission Forum, the project proponent is obliged to provide a forum for public review. After the EIA document has been reviewed by the Commission, but before a decision is made, the general public including affected people have an opportunity to air their opinions, concerns and complaints about the document. Because people have been involved since the initial stage of the EIA studies, they are aware of whether their ideas have been incorporated in the EIA document. In the Indonesian context, the public review must be conducted in an informal atmosphere. Community input should not be submitted in written form, because not all people are used to writing down their ideas. Given this, the project proponent is obliged to open a *hot line* in an accessible place such as village hall or neighbourhood hall. The objective of the public review is to evaluate the document and to obtain feed back from the people.

LIST OF RELEVANT PUBLISHED PAPERS AND OTHER SOURCE MATERIAL

Arimbi HP dan Mas Achmad Santosa 1993 *Peranserta Masyarakat dalam Pengelolaan Lingkungan (Public Participation on Environmental Management).* Jakarta: Environmental Indonesian Forum (WALHI).

Arstein, Sherry R. 1969 'A Ladder of Citizen Participation' Journal of the American Institute of the American Institute of Planners. 35. July. pp 216-224.

Canter, Larry W. 1991 *Environmental Impact Assessment. New York:* McGraw-Hill.

Environmental Impact Management Agency (Bapedal) 1997 Act of the Republic Indonesia no. 23 of 1997 concerning Environmental Management.

Hadi, Sudharto P. 1996 *Technical Guidelines on Social Impact Assessment in Preparing EIA.*

1995 Aspek Sosial AMDAl : *Sejarah, Teori dan Metode (Social Aspect of EIA: History, Theory and Methods).* Yogyakarta: Gadjahmada University Press.

Koesnadi Hardjasoemantri 1986 *Aspek Hukum Peranserta Masyarakat dalam Pengelolaan Lingkungan Hidup (Legal Aspects of Public Participation on Environmental Management).* Yogyakarta : Gadjahmada University Press.

State Ministry for Environment 1996 The Decree of State Minister for Environment no. 39 of 1996 concerning the Types of Projects Required to be Accompanied by EIA.

United Nations, Department of Economic and Social Affairs 1975 *Popular Participation in Decision Making for Development.* New York.

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Key words

public participation

inadequate and inappropriate processes

Public hearing within the environmental impact assessment review process

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ABSTRACT

The integration of public participation/involvement of stakeholders in Environmental Impact Statement (EIS) Review is very important in terms of its implication for sound decision making and the sustainability of development activities. In this regard, the Ghana EIA Procedures provide for the involvement of stake holders in the assessment and review of proposed undertakings. This is achieved through a number of mechanisms, particularly the holding of public hearings.

In public hearings within the context of the Ghana EIA Process shareholders and proponents are brought together in a forum to express their opinions and offer suggestions on a proposed undertaking in order to influence the decision-making process. This process has been applied selectively in Ghana and this paper explores why some of the projects were subject to public hearing, and the objectives, form and outcomes of this process. It concludes that stakeholders' involvement in review is essential and may lead to enormous benefits for the proponent, stakeholders and the nation. Where this is ignored, conflicts and problems may be created for project implementation and sustainability.

INTRODUCTION

The Environmental Protection Agency (EPA) has as its mandate the EPA Act 1994 (Act 490) to ensure compliance in planning and execution of all development activities with the Environmental Impact Assessment (EIA) Procedures in order to promote environmentally sound and sustainable development in the country.

This led to the implementation of the Ghana EIA Procedures in 1995 which, among other objectives, seek to provide an avenue for the involvement of the public, private proponents and agencies in the assessment and review of proposed undertakings. This is to ensure that the concerns and needs of the affected population are considered and addressed.

In addition, the Environmental Protection Agency (EPA) has responsibility for involving the public in the review of Environmental Impact Statements (EISs). This is achieved through mechanisms such as the serving of a 21 day public notice of an EIS publication through newspaper advertisements

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inviting comments from interested and affected parties. Where strong public concerns are raised over an undertaking, and its potential impacts are extensive and far reaching, the Ghana EIA Procedures provide for public hearing to be conducted as part of the review of the project's EIS.

Between 1995-1997 a total of 72 EISs were conducted in Ghana and eight of these were the subject of public hearing. This paper attempts to explore why some projects were subjected to public hearings, and the objectives and purposes, form and outcomes of public hearings.

PUBLIC HEARING PROCEDURE AND FORM

Public hearing is a form of participation in which stakeholders and proponents are brought together in a forum to express their opinions and offer suggestions on a proposed undertaking in order to influence the decision-making process. It is usually organised by the Environmental Protection Agency within the project area of influence and moderated by an independent panel. The procedure adopted during public hearings includes the following steps:

- the introduction of panelists, traditional leaders, government department staff, representatives of all community groups, non governmental organisations and individuals;
- the purpose and objectives of the public hearing are then made clear to the participants;
- the proponent is then given an opportunity to make a presentation on the project EIS. This must be done in the local language to facilitate better understanding of issues and should pay particular attention to those issues that are likely to affect the local community directly (the presentation should include a summary of the project proposal, outline of the main benefits and negative effects of the project to the local people, district and the nation, and an indication of how the key negative impacts would be mitigated);
- representatives of the affected communities, and other stakeholders, also present their opinions and concerns about the proposal;
- the proponent is then given the opportunity to react to the substantive issues and concerns raised; and
- the panel members collate all the concerns raised and make their findings and recommendations known to the forum and then to the Environmental Protection Agency.

Most public hearings last for a period of about five hours and are well attended. In a particular case, as many as 600 people attended the meeting. These included chiefs, community representatives, government officials, and the proponent's representatives.

OBJECTIVES AND PURPOSE OF PUBLIC HEARING

The main objectives for organising these public hearings as part of the EIA review process are:

- to provide a forum for the proponent to inform the entire community of the outcome of the Environmental Assessment of proposed undertakings;
- to verify the accuracy of the EIA findings in relation to the situation on the ground;
- to confirm that all the affected parties and stakeholders have been adequately consulted and have been part of the various decision-making processes;
- to offer the affected and interested parties, as well as other stakeholders, the opportunity to express their opinions on any issues considered outstanding; and
- to promote effective public participation and ensure confidence in the Ghana EIA process as well as support for the proposed undertaking.

REASONS FOR PUBLIC HEARINGS

Generally the Ghana EIA Procedure requires the EPA to hold a public hearing as part of an Environmental Impact Statement review where:

- the expected environmental impacts are considered extensive and far reaching:
- there is great adverse public reaction to a proposal; and
- there will be relocation or dislocation of communities.

Reasons for Public Hearing	*Coldstore Supermarket Recreational Development*	*Esaase Gold Mine*	*Damang Gold Mine*	*Tarkwa Gold Mine*	*Shell Service Station Adwinwa Road*	*Mpesaem Gold Mine*	*Bibiani Gold Mine*	*Abyempim Gold Mine*
Relocation/ Resettlement of communities		•	•	•		•		•
Strong public concern about Environmental impacts	•	•	•	•	•	•	•	•
Proximity to Settlements in the case of mining	•						•	
Diversion of Railway lines, Streams, Power lines			•	•				

Table 1: Reasons for public hearings

In practice, four main reasons have accounted for the holding of public hearings on eight projects in Ghana. These reasons are summarised in Table

1 which also indicates that a majority of the projects were gold mines. This can be attributed to the need to relocate or resettle affected communities as well as the strong public concerns expressed about the overall impacts of these projects. The only exceptions were the recreational/supermarket /coldstore development and the Shell Service Station. Both attracted a lot of public concern principally due to the scale of the coldstore facility and the siting in close proximity to the Volta River Authority Electricity Sub Station in Achimota-Accra respectively.

ORGANISATION OF A PUBLIC HEARING

Prior to the holding of public hearing on any given project the following activities are undertaken:

- the selection of site for the meeting;
- posting of notices;
- invitation of stakeholders;
- selection of panelists; and
- a reconnaissance trip to the project area of influence.

The selection of the proposed site and date for the public hearing is done in close consultation with the proponent, the local authority and the affected communities. It is important to achieve a consensus on the site.

Notices are served through:

- advertisement in all the national newspapers which draw attention to the publication of the EIS and public comments within 21 days of the notice (it is required that the notice appears three times);
- announcements made on the National Radio and Television of an impending public hearing;
- advertisement in the affected area using local advertising media like the beating of 'gong gong'; and
- pasting of public notices in areas where impacts are likely to be directly felt.

Letters are also sent to all statutory government departments informing them of the public hearing and inviting them to participate. For instance in the case of a mining project the Ministry of Mines and Energy, Minerals Commission, Mines Department, Regional Administration and the District Assembly that has planning and management responsibility over the area where the activity is located would be invited. In certain cases specialised agencies or departments are invited to comment on the proposal, depending on its nature. For instance where a proposed activity would result in the diversion of railway lines, the Ghana Railway Corporation would be invited to the forum. Non Governmental Organisations which express concerns about the activity under consideration are also specially invited.

In addition, traditional authorities, chiefs, elders and identifiable groups such as farmers' associations in the affected communities are notified and invited to participate in the public hearing.

It is essential that, as part of the preparation, a reconnaissance visit is made by a team of officers to the affected communities to inform these communities and interact with their leaders and identifiable groups. During such visits invitation letters are formally served and notices pasted. Interactions during these visits give indications about the key areas of concern that are likely to come up during the hearing. The conditions that would prevail at the hearing are easily predetermined during the reconnaissance visit.

Where people feel very strongly about a project and there are potential signs of serious public disturbance arising from the meeting, the agency at this stage would be informed and will provide the necessary security. The outcome of the public hearing depends to a very large extent on the quality of the reconnaissance exercise.

As part of the preparation a panel must be constituted. In practice the membership includes a representative of a relevant professional body like the Ghana Institute of Engineers, Architects and Planners, the EPA and the District Assembly. A chairman, who must not be resident in the project area of influence, is appointed by the panelists. The panel may have a membership of three or five and a third of its members must hail from the affected project area.

OUTCOMES OF PUBLIC HEARINGS

At the end of any public hearing the panel submits a report making its findings and recommendations to the decision-making authorities (principally to the Environmental Protection Agency) as an input to the overall project EIA review process. The Agency, in arriving at its final decision, will consider these concerns and recommendations. When the final decision is made on the project EIS, the Agency notifies the proponent, the Minister of Environment, Science and Technology, the appropriate sector Minister, the appropriate District Authority, and relevant government departments.

It is important to state that the findings of public hearings have had considerable influence on the EIS Review. In some cases certain aspects of the project proposal had to be altered, additional mitigation proposals and commitments were made and final decision on projects delayed until substantive issues were addressed. For instance the coldstore/supermarket and shopping mall proposal was advised to reduce the scale of the cold store facility in the proposal by about 50% of its storage capacity.

Again, Shell Ghana Limited was advised principally to relocate its Achimota Service Station in view of the potential problems that might arise in siting it in close proximity to the Volta River Authority Sub-Station in Accra.

In the case of the six gold mining projects there were substantial revisions of certain portions of the proposed mitigation proposals. Where involuntary resettlement was involved a detailed plan and time table for resettlement which was to be agreed upon by all affected parties was submitted among other requirements prior to the granting of environmental approvals. In four of the six mining projects it was evident that consultations were inadequate and therefore proponents were requested to consult adequately and submit evidence of this consultation with the communities and other relevant personalities and institutions. For instance in the case of Tarkwa Gold Mine project, the public hearing showed that an important dominant group, (tenants), was not represented on the community negotiating team and therefore were creating problems for the Company in its negotiations.

BENEFITS AND HINDRANCES TO EFFECTIVE PUBLIC HEARING

While it is a statutory requirement within the EIA review process, public hearings have been beneficial in terms of:

- providing an avenue for public information and interaction between the proponent and all interested groups;
- allowing people to articulate their views about a given project and make inputs which eventually enhance the quality of the project environmental assessment;
- leading to social acceptability of projects and promotion of harmonious relationship between the proponent and affected communities;
- creating confidence in the newly established Ghana EIA (this is evident by the level of participation in these hearings);
- unearthing issues that may be hidden from the reviewing authority; and
- resolving conflicts during public meetings since every party is given the opportunity to express concerns before an independent panel.

In spite of these benefits the effectiveness of public hearings have been hampered by:

- The inability of the affected communities to easily understand project proposals due to the low levels of literacy. It would have been more beneficial if the locals could have a thorough understanding of the EIS to facilitate effective discussions. Lack of understanding has usually led to hostilities during public hearings.
- The absence of EIA capacity at the District Assembly Level to undertake their own EIS review and to guide their communities to make inputs into EIA Studies.
- The absence of organised NGOs to assist communities in

understanding the issues and in making meaningful comments about a given project.

CONCLUSIONS

The key lesson is that public participation in environmental assessment review is essential and may lead to substantial benefits for both the proponent and affected community. Where it is ignored it leads to conflicts and problems for project implementation, acceptability and sustainability.

LIST OF RELEVANT PUBLISHED PAPERS AND OTHER SOURCE MATERIAL

EPA 1995, *Ghana Environmental Impact Assessment Procedures*, Environmental Protection Agency, Accra.

EPA 1996, *Environmental Impact Assessment in Ghana, A Guide*, Environmental Protection Agency, Accra.

NSR 1996, Environmental Impact statements on the Abosso Gold Project, Abosso Goldfields Ltd.

Mineart Ltd 1996, Environmental Impact Statements on the Mpeasem Gold Project, Seafor Mining Company Ltd.

SGS 1997, Environmental Impact Statements on the Bibiani Gold Project, Ashanti Goldfields Bibiani Limited.

P.C.Acquah 1997, Overview of Some Environmental Assessment Management Practices in Ghana, *EPA Newsletter*, Vol. 1, (7), October-November.

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Environmental impact assessment of the Camisea Gas Project: the importance of consultation and local participation

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ABSTRACT

Large reserves of gas and natural gas liquids have been discovered in the Camisea Region in the Amazon rain forests of south-east Peru. The project is located in an area inhabited by indigenous groups. These communities may be exposed to a number of potential impacts which may lead to changes in their livelihoods and socio-cultural characteristics.

This paper focuses on the socio-cultural aspects of the EIA process of the Camisea gas project to highlight that consultation and local participation are the key to EIA and eventual project success. The paper highlights the importance of local participation in delivering long term project success. EIA is an integral and key tool that can be used as the catalyst for initiating this process; a process which leads to social equity and local empowerment.

INTRODUCTION

Large reserves of gas and natural gas liquids were discovered by the Shell Company SIEP, in the mid-1980s. These reserves are located in the Camisea Region in the Amazon rain forests of south-east Peru. This area was allocated to Shell Prospecting and Development Peru (SPDP) following a licence agreement in 1996 for hydrocarbon appraisal and development. This potentially would have been one of Peru's largest development projects, capable of turning the country into a net energy exporter. The project comprised three main components, namely a gas plant and associated infrastructure located in the rainforest close to the well sites (eg. in field pipelines and well sites); a 600 km export pipeline system across the Andes to the coast; and a fractionating plant plus marine terminal at the coast.

In accordance with Peruvian legislation, project developers are obliged to conduct an Environmental Impact Assessment (EIA) for major infrastructure and development projects. This ensures that adequate provision for environmental protection can be incorporated into the planning, design, execution, monitoring and decommissioning of the project. This EIA will be seen as the first step in an extended programme of consultation, research, analysis and participation leading to sustainable development of the region.

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The project is located in an area inhabited by indigenous groups, and riverine communities, and includes isolated and semi-isolated groups. All these communities may be exposed to a number of potential impacts which may lead to changes in their livelihoods and socio-cultural characteristics. It is important that measures are taken to avoid the loss of tradition and customs, especially since these can lead to secondary impacts on the sustainable use of their natural environment.

A year-long intensive EIA was conducted, supported by work which had begun in 1994. The EIA, conducted by an independent contractor, Environmental Resources Management (ERM Peru), covered all the issues related to the physical, biological and socio-cultural environment, identification and assessment of the potential impacts and mitigation measures. The EIA process is an innovative management tool that may be used to identify these changes. It is conducted early on in the project cycle and predicts impacts and allows for mitigation to be built into design. The challenge is to gain effective participation from the communities which may be affected by the project.

SPDP has been undertaking exploratory and appraisal drilling in Blocks 75 and 88B respectively since 1997. Results of these phases would contribute to a decision on full-development called the FFDP. Additional economic/marketing/technical analysis were carried out to determine viability of the FFDP. SPDP however could not reach a mutually satisfactory agreement with the Peruvian Government (15 July 1998) and consequently decided not to proceed to FFDP. Nevertheless, there are some important lessons to be learnt from the four years that Camisea was alive. The following is a description of what was planned, and what happened, during those four years.

This paper highlights the importance of local participation in delivering long term project success. EIA is an integral and key tool that can be used as the catalyst for initiating this process; a process which leads to social equity and local empowerment. The paper focuses on the socio-cultural aspects of the EIA process to highlight that consultation and local participation are the key to EIA and eventual project success. The key processes for directly involving local communities are provided with examples for involving community members in field surveys; continuous consultation; local empowerment through Vigilance Brigades; and capacity building and training.

NATURE AND SCOPE OF ISSUES

The legal and institutional context of public participation

The legal context

The 1993 Peruvian Constitution (Article 2) enshrines the basic right of every Peruvian citizen to participate, individually or in a group, in matters which may affect their political, social, cultural and economic life. There exist legislative instruments which endorse and facilitate every Peruvian citizen's

right to participate in decisions that may affect the environment or indigenous peoples' rights.

The institutional context

Promulgation of legislative instruments has provided a sound legal framework for public participation in Peru. The main impediment to realization of effective public participation has been the lack of an organized and developed institutional framework to implement the legal requirements. There is often a lack of resources within government and representative institutions which tends to limit the amount of consultation and facilitation that can be achieved. More recently though, the EIA process has been used as a key mechanism to facilitate and initiate public participation (notably within the EIA requirements established by the Ministry of Energy and Mines). The EIA process in Peru is a formal requirement, and the participation of the public is encouraged, through the EIA process itself and recently, via the associated public hearing process. The Public Hearing process is being adopted increasingly by other Peruvian line ministries.

STAKEHOLDER CONSULTATION: PROCESS AND OBJECTIVES

The communities and people involved

The Camisea Field Production Facilities will impact upon different groups of peoples in different ways and with varying magnitude, and can essentially be categorized into two distinct groups.

- Those potentially most affected, which include native communities or colonist settlements, located at and in the immediate vicinity of the 'zone of operations'.
- Those affected to a lesser degree which include native communities or settler groups that live along the Urubamba river downstream of Nuevo Mundo towards Atalaya and Pucallpa, the semi-isolated groups of Motentoni and Marankiato located south-east of SPDP's operations in the Cashiriari gas fields, and potentially some nomadic groups located within the Nahua and Kugapakori State Reserve.

The majority of the activities and consequently the impacts will take place during the construction phase of the gas processing plant, the in-field pipelines and the production clusters. Additional impacts will be caused as result of logistical activities needed to support these constructional activities. The 'zone of operations' or the area where most of the impacts will be concentrated will therefore be located at or in the vicinity of the site called Las Malvinas.

PROCESS AND PROCEDURAL CONTEXT

The process of stakeholder consultation

'Stakeholder' is the name given to those individuals or groups likely to be either directly or indirectly affected by any part of a proposed project development. Those individuals or groups likely to be directly affected, such as native communities and their representative organizations are referred to as primary stakeholders, while those likely to be indirectly affected, such as line ministries, government departments and national and international non-government organizations (NGOs) are referred to as secondary stakeholders.

The participation of project stakeholders in project planning, design and implementation is now universally recognized as an integral part of environmental and social assessment. Local communities, their representatives, government and national and international NGOs may all be able to contribute to (and benefit from) dialogue directed at identifying and resolving key project-related questions. Stakeholder consultation is a two-way flow of information and dialogue between the project proponent and stakeholders, specifically aimed at developing ideas that can help shape project design, resolve conflicts at an early stage, assist in implementing solutions and monitor ongoing activities.

The objectives of stakeholder consultation

The key objectives of stakeholder consultation include the following:

- provide information related to proposed project activities;
- facilitate and maintain dialogue;
- seek participation of all interested parties;
- identify stakeholder interests and issues;
- create solutions for addressing these concerns and integrating them into project design, operations, and management; and
- enhance the project by learning from, and incorporating, the expertise of individuals, professionals, communities and organizations.

The main impediment to realization of effective public participation has been the lack of an organized and developed institutional framework to implement the legal requirements. There is often a lack of resources within government and representative institutions which tends to limit the amount of consultation and facilitation that can be achieved.

More recently though, the EIA process has been used as a key mechanism to facilitate and initiate public participation. Enlightened EIA incorporates an element of stakeholder consultation. The EIA process in Peru is a formal requirement, and the participation of the public is encouraged, through the EIA process itself and recently, via the associated public hearing process. The Public Hearing process is being adopted increasingly by the various Peruvian line ministries.

The stakeholder consultation programme has been a forum for promoting dialogue, participation and cooperation between all stakeholders. Its focus has been to identify, discuss, resolve and implement actions that maximize project profitability, minimize social, cultural, and ecological impacts, and contribute to the long term sustainable development of Peru and the Camisea Region. The consultation programme was also aimed at enhancing the delivery of social and environmental investments in the future of the Camisea Region and Peru, and demonstrating openness and transparency and commitment to the Camisea Project's social and environmental goals.

The consultation programme was based upon the following main principles:

- to develop and maintain an open and transparent dialogue with all parties who have an interest or influence on the proposed Camisea project;
- to be iterative and flexible (i.e. so that decisions can be continually fed into design, construction and operation) and to demonstrate how, when and why input from stakeholders was or was not utilized;
- to learn from stakeholder expertise so as to modify and adapt future consultation activities and project design;
- to maintain stakeholder consultation throughout the project planning and design phases and to continue such dialogue through actual construction and operation;
- to recognize that there exists different levels of understanding amongst the stakeholders and to develop the consultation programme accordingly; and
- to provide complete information about the project, with regard to such issues as construction methodology, engineering and operating design, and mitigation.

Stakeholder consultation for the Camisea Field Production Facilities has included the following main activities:

- consulting with the native communities of the Lower Urubamba;
- consulting with the native community federations;
- consulting with Government; and
- consulting with national and international NGOs.

The needs of primary stakeholders, for example, are very different to those of an international NGO, and thus the consultation programme has been cognizant of the wide-ranging differences that exist between stakeholders, and the ways in which information needs to be disseminated and comments fed back. The stakeholder consultation programme has consequently used different tools to address different stakeholder groups, ranging from, for example, technical information contained in a formal report for a specialised

international NGO through to using three-dimensional (3-D) scale models and picture posters for native communities.

The main objectives of the community consultation programme include the following:

- provide information about the project;
- identify community expectations;
- explain SPDP's commitment to providing 'net benefit' to the region;
- provided information on SPDP's Regional Sustainable Development Strategy;
- sense concerns regarding environmental and social issues;
- seek opinions and information regarding key project decisions (eg location facilities and in-field pipeline routing, types of logistics to be used etc);
- support participation in the project decision making process and design;
- address expectations through a mutually agreed process of compensations;
- establish a mutual agreement for land to be used for project related activities; and
- contribute to building capacity for regional leadership.

Incorporating community concerns into project design

One of the key objectives of community consultation is to ensure that the concerns, fears and suggestions expressed by the communities, feed back into shaping project design.

APPROACHES TAKEN

The EIA process

Stakeholder consultation as part of the EIA process began in 1996 with the Appraisal Drilling Campaign EIA and continued through to 1997 with the Pagoreni/San Martin East Exploratory Drilling Campaign EIA undertaken by ERM Peru. Consultation during these EIAs focused on dialogue with primary stakeholders in the Camisea region, federation leaders, and secondary stakeholders in Peru, Europe and the USA. Since then efforts have focused on EIA consultation for the Camisea Field Production Facilities EIA through 1998.

Linking EIA to stakeholder consultation

Stakeholder consultation is an integral component of the EIA process. The EIA stakeholder consultation and participation programme was developed in accordance with the objectives and principles set out within SPDP's

overall programme. It has been conducted as a distinct yet integrated component of this programme. The stakeholder consultation and participation programme has been developed to fully integrate the more focused consultation activities specifically undertaken within the EIA process. For example, SPDP Community Liaison Officers (CLO) have played an integral role in assisting EIA efforts by working together with the EIA field survey teams. The CLOs have not only been the interface for communication between SPDP, ERM Peru and the native communities, but have also been involved in such field activities as baseline data collection, community meetings, and community participatory mapping exercises.

The main elements of the EIA stakeholder consultation and participation process include the following:

- distribution and feeding back comments from the Scoping Report;
- finalizing the EIA terms of reference following stakeholder consultation;
- stakeholder consultation during EIA field surveys;
- issues identification following field surveys and on-going consultation;
- distribution and feeding back comments from the Key EIA Issues Report;
- distribution and feeding back comments on the Final EIA Report;
- stakeholder consultation during the EIA approval process, namely the public hearing;
- post EIA consultation; and
- EIA training.

The Scoping Report

The Scoping Report was produced in June 1997 and was the first main consultative document in regard to the EIA and the overall Full-Field Development Programme (FFDP). This document was designed to serve as a study terms of reference (ToR) for the FFDP including the Camisea Field Production Facilities component, and included information on the relationships between the design and EIA processes. It outlined the execution programme for the various EIAs and how it was anticipated stakeholder input would feed into the EIA process, as well as other Camisea project management activities. Copies of this document were distributed to all stakeholders based in Peru and elsewhere.

Finalizing the Terms of Reference

Stakeholders were invited to provide comment so that the ToR for the FFDP EIAs could be finalized. One-to-one meetings were held with some stakeholders and their comments sought and fed back into the design of the studies, thereby finalizing the ToR for the EIAs. Even though a complete list

of identified stakeholders had received a copy of the Scoping Report, few responded.

EIA Field Surveys

In order to develop and produce an EIA, field work is necessary. This phase of the EIA process allowed the EIA team to conduct the following main activities:

- collect baseline information (regional and site-specific) which will be used to assess the significance of a project's activity on its surrounding environment;
- understand more about the area or region from first-hand experience;
- consult with those people which may be affected by the project's development, so as to inform them about the project, to seek their agreement to the project, and to feed back their comments, concerns and fears so as to mitigate against potential impacts.

Extensive consultation with the communities most likely to be directly affected by the Camisea Field Production Facilities was conducted during the EIA field surveys.

Issues identification

Following on from the EIA field surveys, consultation with various stakeholder groups (i.e. Government, NGOs and native communities), a number of issues of primary concern to the stakeholders were identified. An approach was then developed which focused on taking these issues and processing them through a system so that a solution might be reached on each of the issues.

This Key Issues approach is based on the principle that by addressing these issues early-on, stakeholders are able to get involved in the process earlier. This ultimately allows for solutions to be reached earlier as well. The identification of key issues culminated in a Key Issues Report which addressed those issues that were identified as most relevant to the EIA and the stakeholders.

Key Issues Report

The key issues have been identified through consultation with stakeholders (eg through international and locally held workshops), EIA field surveys, and design activity. A separate Key EIA Issues Report has been produced and disseminated to stakeholders for comment and to seek active participation. A pro-forma has been produced which invites stakeholders to choose which key EIA issues they would like to be either involved in actively or just receive information on. Stakeholders will be able to participate in resolving the key issues through one-to-one meetings, focus groups or larger workshops.

Final EIA and EIA Approval

Upon submission of the Final Camisea Field Production Facilities EIA to the Ministry of Energy and Mines, copies of the report will be automatically distributed to a number of stakeholders for their comments. Copies will also be available to others on request. A non-technical summary will however, be distributed to all listed stakeholders (and any others requesting a copy), so that they may have the opportunity to review the EIA. All stakeholders have the opportunity to attend the Public Hearing which is scheduled to be called by the Ministry of Energy and Mines approximately four to six weeks following lodging of the EIA with the Authorities. SPDP will then be provided with the opportunity to respond to any concerns by stakeholders (following the Public Hearing and otherwise) prior to Government determination of SPDP's application within 60 days after first submission of the EIA.

In addition, the EIA, in a simplified format, will be presented to the native communities for review, following production of the final EIA and before Government approval. The native community Federation Leaders will be invited to attend the Public Hearing on behalf of the communities they represent.

In order to aid the native communities' ability to both understand and evaluate the simplified EIA for themselves, a Guide to Native Communities for Review of Environmental Impact Statements has been produced and distributed to the native communities.

Post EIA

Stakeholder consultation will continue following EIA submission and approval. An on-going local, national and international consultation process will be developed in consultation with the stakeholders and will continue to be refined through project construction and operation.

Further EIA consultation efforts

In addition to those activities outlined above, two training workshops, aimed at building EIA capacity for local NGOs and SPDP Community Liaison Officer (CLOs) respectively have been conducted. Two separate workshops were held with the following main objectives:

- highlight ERM's work to date in the region and how both NGOs and CLOs are involved in the EIA process;
- raise the general level of understanding as to what an EIA is and why it is conducted;
- run through the EIA process itself and its individual components using show case examples; and
- demonstrate the link between the EIA process and stakeholder consultation.

NGO EIA training

The specific objectives of this workshop were to provide the participants with the following information:

- an overview of the function of EIA including a description of key technical components;
- an outline of EIA methodology from scoping to mitigation;
- the key benefits of EIA to industry; and
- how SPDP's commitment to social development fits into the EIA process.

The participants were provided with an information package relating to EIA methodology and process, benefits to industry and specific examples from EIA projects. Following completion of the workshop, the main findings from the discussions were collated, analyzed and then disseminated to all the participants.

The focus for the field survey consultation was three fold: to present information on the project, to elicit community concerns regarding the project, and to build capacity of community members involved in the field surveys regarding EIA methodology.

RESULTS AND IMPLICATIONS

Field surveys

The main objective of the field trips was to visit each of the communities in the Lower Urubamba region between Sepahaua and Pongo de Mainique.

The main objectives of the consultation in the field trips included the following :

- meet the communities of Lower Urubamba;
- gather first-hand primary concerns relating to all aspects of the FFDP;
- present the concepts of EIA including the Environmental Management Plan (EMP); and
- identify key mechanisms for consultation to continue.

Key concerns

The process allowed the identification of the main concerns of the communities. These can be broadly split between concerns relating to the FFDP, socio-economic issues and environment and are collectively presented below.

Key findings

Full Field Development Programme

In general there was a positive attitude from the communities towards the FFDP. The communities were keen that it would be a source of many benefits (eg employment during the construction period). They saw many of these however, as short-term. The communities wanted to learn more about the project, as this was the first time for many communities that the FFDP had been mentioned. In principle, except for Cashiriari none of the communities objected to the gas plant being built on their lands, although they would not want it sited next to their village.

Socio-economic Issues

The main concerns of the FFDP in terms of socio-economics were the potential affects upon health, education and agricultural development. Many of the communities felt that the project might bring new diseases to the region which might affect health as well as food stocks and production. The communities were keen that SPDP showed a willingness to support development projects.

Environment

There are a number of environmental issues of concern to the communities, notably the following.

- Water pollution – they were concerned about the potential wastes from the project and how this will affect water quality, and also the impacts of the increased river traffic upon fish stocks, their main protein source.

- Use of hovercraft – they felt very strongly about the hovercraft and relate this to noise causing dwindling fish numbers, the wash from the hovercraft affecting daily river activities, and a mythical belief about a monster coming to take the fat from their children away to produce helicopter fuel, known as the 'pishtaco' myth.

- Increases in general river traffic – they were concerned about the increases in river vessels and how these may disrupt their fishing or daily riverine activities (e.g. washing, bathing).

- Control of access along any roads – when asked about roads, the communities stated that they would accept these as they would provide improved market links and communication between communities. They were adamant however, that complete control and security must be provided to ward off and control the potential for settlers and loggers to enter their lands.

- Use of helicopters – the communities were worried about the increased noise levels from the helicopters and how this may affect the wildlife and potential game.

All of the communities saw the EIA as a constructive process and as a means of helping them to protect their environment.

Consultation process

The communities feel that there has been a good level of co-ordination between SPDP, the communities, the local authorities, federation representatives and ERM Peru. They did note however, that the consultation of women and elders was not as effective as it could be and ways should be sought to improve this.

The communities in general welcomed the visits made by project personnel. Although their level of technical understanding is somewhat limited, the use of visual material provided great added value in disseminating a large amount of information.

Community consultation regarding baseline data collection

A five week survey focused on community consultation and socio-economic/cultural baseline data collection as part of its field survey for the Camisea Field Production Facilities EIA was undertaken. The field survey conducted involved the following communities: Las Malvinas, Chokoriari, Camisea, Shivankoreni, Segakiato, Cashiriari, Nuevo Mundo, Kirigueti, Marankiato, Montetoni.

The specific objectives of the survey were to:

- visit each of the communities potentially impacted by the gas processing plant, in-field pipelines and production clusters;
- conduct the socio-economic and cultural impact assessments at each community addressing such issues as natural resources consumption, hunting (areas, species, frequencies, means), collection (distances, products, difficulties), logging (species, distances, uses), agriculture (location, labour force, products, land use), marketing, etc..(Fisheries were not included in this study as a separate study was developed);
- identify the community's main concerns in relation to the FFDP; and
- discuss appropriate mitigation measures with the communities.

Field survey methodologies

The field survey was conducted using the following main methodologies:

- Community meetings were held to provide brief explanations to the communities concerning ERM Peru's research and EIA work. These meetings were also used as the main forum for data gathering, collecting community concerns relating to the proposed project
- Participatory community mapping was conducted to present information processed by a group of participants (eg men and/or women groups) in a visual format. The participatory maps provide

valuable socio-cultural baseline information, much of which is presented in a geographically spatial form.

- Questionnaires were conducted based on a statistically defined sample, and a specific number of surveys were applied to house heads in each community. This allowed the field team to obtain quantitative data and define local resources consumption trends.

- Semi-structured interviews were held with the community presidents and members within the communities in order to supplement information collected through the questionnaires.

- Population registers were used in some villages which enabled the survey team to identify the total number of people, men , women and children, and to determine local historical tendencies on birth, death and migrations.

The concerns highlighted by these communities were representative of concerns raised throughout the region. In addition, a total of 173 questionnaires (statistically representative) were carried out at the following eight communities. The figure in parentheses highlights the number of questionnaires carried out at each community. The questionnaires were focused on collecting quantitative baseline data on such issues as hunting, collecting, agricultural, logging and marketing. Chocoriari (21), Camisea (20), Shivankoreni (19), Segakiato (25), Cashiriari (13) Nuevo Mundo (29), Kirigueti (40), Las Malvinas (6).

Community consultation regarding logistics impacts

A survey of five riverine communities was undertaken in order to assess the impacts of increased river traffic once construction for the Camisea Field Production Facilities begins. Daytime ambient sound measurements were taken and community participatory techniques were undertaken at the following river-bank locations: Kirigueti (upstream from Nuevo Mundo); Miaria (between Nuevo Mundo and Sepahua); Puija (in close proximity to Sepahua); Bufeo Pozo (between Sepahua and Atalaya); Maldonadillo (in close proximity to Atalaya).

The communities were consulted using semi-structured interviews and questionnaires to elicit their views and concerns about increases in river traffic. Forty-seven interviews were conducted between the five communities. In addition, ambient noise measurements were taken at each of the communities to provide valuable baseline information upon which impacts could be further assessed.

Native community participation during the EIA

Since the beginning of the Camisea project the establishment of a close working relationship with the native communities of the Camisea region has

been sought. The process has involved the native communities, as far as possible, with the following activities, during preparation of this EIA.

- River traffic log survey: In order to assess the level of impacts from increased river traffic once FFDP construction begins, a river traffic log survey to collect baseline ambient data was initiated. This survey was conducted at Nuevo Mundo, Camisea and Las Malvinas and involved local community members. The river log provided an account of the types of river vessels and the time of day they passed any one of the communities. The information collected has been used during the assessment of impacts for this EIA.

- EIA field surveys: During EIA field surveys, native community members were employed to assist the technical experts with such activities as plant, tree and animal identifications (during transect exercises), collecting surface and ground water samples (from streams, rivers and community water wells), and assisting in collecting ambient noise and air quality measurements.

- Socio-economic and socio-cultural baseline data acquisition: During the field surveys, ERM Peru's socio-economic team visited all of the communities of the Camisea region. They conducted community-wide meetings and encouraged community members to participate. One key focal area for community participation was during the collection of socio-economic and socio-cultural baseline data. ERM Peru made use of well known 'participatory rural appraisal' (PRA) techniques such as semi-structured interviewing, historical and daily profile assessments and participatory mapping. All of these techniques provided invaluable baseline information which has been used throughout this EIA. Furthermore, they provided an opportunity for the communities to get involved in the EIA.

Proposed ongoing stakeholder consultation during project implementation and operation

Consultation on the implementation of the EIA was to be managed within the context of SPDP's overall stakeholder consultation programme.

The goal of the on-going consultation was to inform and involve stakeholders in the implementation and monitoring of the policies and strategies outlined in the EIA and the EMP. The consultation programme needs to be continually developed, modified and adapted in light of the changes and activities pressing at any one time. SPDP was committed to work with stakeholders by involving them at key phases of the programme. Stakeholders will be involved in the development of the consultation process and programme itself, capacity building exercises, implementation of measures outlined in the EMP, monitoring project activities and establishing review mechanisms.

Native community participation

Native community participation was seen as a key element of gauging the success and effectiveness of implementing those measures outlined in the EMP. A key focus therefore lies in capacity building and awareness training. Furthermore, communities were encouraged to participate in monitoring project activities through such measures as external auditing and the implementation of a community complaints procedure. Project CLOs were to continue to provide the link between the project and the communities, and work with them to find other ways of maximizing their participation during project construction and operation.

Monitoring and evaluation
As part of the overall stakeholder consultation programme, it was envisaged that a focus group of secondary stakeholders was to be established to aid in the design of a monitoring and evaluation (M&E) programme This programme serves to provide an external check as to whether SPDP is meeting its commitments set out in both EMP and Health, Safety and Environment (HSE) objectives and goals. Some stakeholders have developed a record of developing and managing complex M&E programme and their expertise would be extremely useful in helping to design such a programme for SPDP. This group of stakeholders will liaise with the native communities in developing such a monitoring programme.

Internal training and education
SPDP was working towards developing a training programme which covers HSE components identified within the EMP. This programme covers general environmental and social issues for all staff and more specific technical issues for relevant project personnel. It was intended that key stakeholders be involved in the training programme to build their technical capacity and also raise awareness for HSE issues.

Developing new key issues

Updates on the key issues were to be provided to all stakeholders. The updates provide information on the procedures established to insure key issue management implementation and also report on successes and problems. As the needs and circumstances of the project changes, and as gaps are identified in key issues procedures, stakeholders will be involved in identifying new key issues and possible solutions to identified gaps in mitigation strategies and procedures. Management systems could then be adapted to respond to the needs of the issues as they develop.

Dissemination of information

SPDP will continue to disseminate its briefing paper on a regular basis. These serve as an effective means of providing stakeholders and any other interested parties with an update on project activities to date and those planned for the near future. In addition, SPDP is committed (internally and by national legislation) to produce an annual HSE Performance Report

which will be made available for public perusal upon completion. Finally, SPDP will continue to update its Camisea website to include information on technical, environmental, social, health, safety and other project related issues. Stakeholders are encouraged to send in comments and questions on the project through the website.

Meetings and workshops

One-to-one meetings and workshops to develop the project with the participation of stakeholders will continue. It is intended to hold annual workshops and more regular meetings with national and international stakeholders to keep them informed on project activities and any new key issues, and allow for their participation during the construction and implementation phases.

The primary results from the consultation rounds were as follows:

- No community was opposed to the overall project.
- The communities accepted the use of hovercraft for transporting project equipment and materials, subject to the use of an early warning system, a lead boat and timing restrictions documented as standard operating practice in a 'River Traffic Safety Procedure' which the communities have actively participated in developing.
- A decision on Las Malvinas as the preferred gas processing plant location was made after the fourth consultation round and after incorporating community opinion into a series of internal site selection workshops.
- The communities were able to begin contract negotiations outlining plans for land acquisition and hire, as well as appropriate compensatory measures.
- The communities have increasing understanding of the concepts behind the Camisea Field Production Facilities, what the potential impacts are and what these could mean for them. They advanced their comprehension as to what construction of the in-field pipelines and the gas processing plant would involve.
- The communities wanted to learn more about the potential adversary effects from the project upon their environment. They needed to know of the potential down-sides as well as the potential benefits in order to make informed decisions.
- The communities still needed more information on how the in-field pipeline would be constructed, what appropriate mitigation measures would be employed, and what the potential risks would be to them. Similarly, more information is required about SPDP's waste

management plans, in particular, for dealing with toxic and hazardous wastes.

- Colonists felt that more attention had been paid to the native communities in terms of discussing benefits and compensation.

- A significant amount of further consultation is required before the communities fully understand the range and level of impacts.

RECOMMENDATIONS

Throughout the field trips a number of recommendations were made as to what SPDP should do during the FFDP. These recommendations are summarized below.

- make the consultation programme an ongoing and permanent process;
- ensure that effective and regular evaluation and monitoring is conducted to improve the process;
- use methods and strategies to increase local motivation and interest in the consultation process and include women and elders;
- centre the presentations around one or two issues, rather than trying to make a comprehensive presentation of several themes.
- keep the messages short, clear and concrete and include a final summary at the end of each presentation;
- identify methods for encouraging people to ask questions during the presentations through strengthening local communal organizations (i.e. training of leaders and representatives);
- maximize the use of complementary audio-visual materials: slides, videos and printed materials;
- train the communities to understand key issues associated with EIA and EMP, monitoring SPDP activities, and in implementing local independent conservation and environmental protection measures;
- (ERM Peru should) take part in more frequent consultation activities with the aim of developing a more efficient participatory process for the EIA production and implementation;
- further assess the potential impacts of helicopters on game;
- implement training and education programmes focused on increasing awareness related to breeding seasons, hunting females, rare and endangered species, dangers of over-hunting and general wildlife management;
- promote palm reforestation programmes (used for thatching roofs);

- implement agricultural and forestry training programmes;
- implement strict control of loggers in the region using the communities as guardians;
- establish improved market links;
- develop river safety procedures with the communities, spill contingency and emergency response plans; and
- establish strict flight paths for the helicopters to avoid coming into close proximity with the communities.

SPDP has taken these recommendations into account, and used them to refine and improve further consultations with the communities. Key examples include:

- an on-going consultation programme is being developed post EIA submission and approval;
- SPDP with ERM undertook a training and capacity building workshop with Federation leaders in Sepahua;
- SPDP will involve the local communities to monitor its activities once construction begins;
- the on-going biodiversity assessments conducted by Smithsonian Institution will hopefully yield results which may indicate the impacts of helicopters on game;
- SPDP's Regional Sustainable Development Strategy will address delivery of training programmes;
- SPDP is currently developing an access control plan for its Camisea field production facilities;
- river safety procedures have been developed with the communities, and a River Safety Navigation Booklet has been produced; and
- flight paths will be developed in consultation with the communities so as to minimize the impacts and nuisance.

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