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The performance of EIA in Tanzania: an assessment

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International Institute for Environment and Development

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Institute of Resource Assessment
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and
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Preface

Since the 1972 UN Conference on the Human Environment in Stockholm, acceptance of the importance of environmental issues in development has grown enormously. This acceptance evolved, through a succession of highly influential initiatives, including the World Conservation Strategy (IUCN/UNEP/WWF, 1980) and the Brundtland Commission (WCED, 1987), into the concept now known as '*sustainable development*'. Sustainable development provided the dominant theme of the 1992 UN Conference on Environment and Development (UNCED), which universally endorsed the concept, particularly in Agenda 21. It has often proved easier to define activities that are *unsustainable*, such as growing consumption, poverty, resource degradation, than those that are *sustainable*. Hence, sustainable development is usually defined in broad and generalised forms. One of the most widely cited definitions of sustainable development is that endorsed by the Brundtland Commission:

> "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs". (WCED, 1987).

Crucial to the concept of sustainable development is a recognition that all development intrinsically involves 'trade-offs' between potentially conflicting goals, such as between economic growth and conservation, between fisheries and agricultural production, or between traditional and modern approaches to production. The objective of sustainable development is to *optimise* these trade-offs between and across the three systems basic to development – the ecological system, the economic system and the social system (Barbier, 1987; Holmberg *et al*, 1991). Emphasis has now switched to finding ways of implementing sustainable development. This raises a number of crucial issues, not least determining *who* should make trade-offs and *how* these trade-offs can be made.

Environmental impact assessment (EIA) is now widely viewed as one of comparatively few tools that can be used to improve the way in which trade-offs are made and improve the quality of development planning. This view is now enshrined in national and international declarations and considerable resources and efforts have been devoted to promoting the adoption of EIA by national and international development agencies. For example, Principle 17 of the Rio Declaration on Environment and Development, agreed at the 1992 United Nations Conference on Environment and Development, and to which Tanzania is a signatory, states:

> "Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority".

A recent meeting of African environment ministers (in which Tanzania participated), reaffirmed this commitment and went further by pledging commitment to formalising the use of EIA within legislative frameworks for development planning and decision-making, at the project, programme and policy levels (Goodland *et al.*, 1996).

Over half the countries in the world now have formal EIA systems, and most development assistance agencies have introduced their own guidelines (see Roe *et al*, 1995), designed to encourage or mandate the use of EIA for development projects. In 1986, the World Bank included EIA in its project appraisal process, an initiative followed by other multilateral agencies (including the African

Development Bank), bilateral aid agencies and UN organisations. While the original purpose of EIA was frequently project-focused, it is increasingly being seen and used within the wider context of serving 'sustainable development' objectives and more attention is now being given to applying environmental assessment to plans, policies and programmes (strategic, sectoral and policy assessment are all examples of this new focus of interest).

Despite such widespread and wholesale promotion of EIA, few studies have sought objectively to assess the influence and effectiveness of EIA in assisting national governments to implement sustainable development objectives. A recent initiative, the International Study of the Effectiveness of Environmental Assessment (Sadler, 1996), attempted a comprehensive review, but its focus was mainly on experience in Northern industrialised countries. Few studies have focused on experience in developing countries, where the efforts of development assistance agencies are now focused. This study is the first in a series of national case studies that seeks to fill this gap. Further ones are planned for South East Asia and Latin America. The report challenges a number of widely held assumptions that underlie the notion of EIA as an effective tool for sustainable development.

The study has come at an opportune time for Tanzania. The Government of Tanzania is now in the early stages of formulating a framework for Tanzania, a framework which is likely to encompass institutional, legal and procedural considerations. The outcome of this process is likely to define the way in which EIA will be managed and implemented in Tanzania for a long time to come. This study report aims to guide and inform this process, and stimulate debate and thinking of relevance to other developing countries in Africa and beyond.

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Executive summary

This study is one of the first attempts to determine objectively the influence of environmental impact assessment (EIA) on decision-making at the national level. It comes at an opportune time – as the Government of Tanzania is currently in the process of formulating national EIA guidelines. With few exceptions, previous studies of EIA effectiveness have relied heavily on indirect and impressionistic evidence. Often this evidence has been collected by questionnaire surveys from the growing numbers of EIA practitioners and aid bureaucrats – that is, from those who may be perceived to have 'vested interests' in the perpetuation of EIA as a planning tool.

Based on a detailed, systematic review, the study shows that EIA has had very little impact on decision-making in Tanzania. In most cases, EIAs were extremely late in starting, under-resourced and generally omitted to involve other stakeholders to any meaningful extent. Most focused on outputs and paid little attention to process. There are few examples where dialogue between EIA practitioners and proponents led to design modifications before the submission of the EIS. In most cases, the EIS did not define, cost and integrate environmental management into project design, and few defined compliance responsibilities. Compliance with the recommendations of EIA has been the exception rather than the rule. Perhaps, not surprisingly, there is a considerable body of opinion, particularly prevalent amongst the private sector and within senior tiers of government, that views EIA in its conventional form as an impediment to much-needed development – and a process that has been 'imposed' by donors.

Interestingly, the study found no evidence that donor-supported EIA processes led to more effective EIA, even though they often harnessed the skills of expensive international consultants, and used donor guidelines. This appeared to be because donor interest in the process generally dissipated once the EIS had been prepared and internal agency needs had been fulfilled. The study found no examples where donor agency interest extended to ensuring that EIA recommendations were adhered to during implementation, post completion or audit phases of the projects concerned. Hence, not only have expensive EIA processes failed to make much of a difference, but donor agencies have failed to learn from their own experience. This 'institutionalized amnesia' has meant that desk officers and other in-country agency staff could generally say little if anything about the performance of the EIA processes they had commissioned.

However, the study has revealed one or two signs for optimism. For example, where EIA processes were introduced early in the project cycle, and where EIA was taken seriously by the proponent, then there is some evidence to indicate that this led to 'positive' design modifications. In one case in the Ruifiji delta, an EIA process became the focus of intense debate over the appropriateness of a major aquaculture development proposal.

The study presents a number of recommendations which are relevant to both the national context of Tanzania and to international donor policy. Our findings have implications for the considerable faith and financial resources invested in EIA each year. Whilst Tanzania still lacks a robust legislative and procedural framework for EIA, this is by no means unusual in many aid-recipient countries, particularly in Africa.

The extent to which experience in Tanzania is representative of experience elsewhere in Africa or the South is open to question. It is for this reason that further national studies are planned for countries with different types of EIA frameworks and institutional capacity.

Glossary of terms and acronyms

AISCO	Agricultural and Industrial Supplies Company
BICO	Bureau of Industrial Cooperation
CBA	Cost Benefit Analysis
CPS	Cathodic Protection Stations
EA	Environmental Assessment
EHIA	Environmental Health Impact Assessment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
ERB	Environmental Regulatory Body
EU	Environmental Unit
IAIA	International Association for Impact Assessment
IEA	Institute of Environmental Assessment
IIED	International Institute for Environment and Development
IRA	Institute of Resource Assessment
IUCN	International Union for the Conservation of Nature (now known as the World Conservation Union)
NAFCO	National Food Corporation
NCI	National Chemical Industries
NCSSD	National Conservation Strategy for Sustainable Development
NEAP	National Environmental Action Plan
NEMC	National Environmental Management Council
NEPA	National Environmental Policy Act
NGO	Non Governmental Organisation
pEIA	Preliminary Environmental Impact Assessment
SIA	Social Impact Assessment
TANAPA	Tanzania National Parks
TAZAMA	Tanzania-Zambia (Pipeline Ltd.)
TANESCO	Tanzania Electricity Supply Company
TCMB	Tanzania Coffee Marketing Board
TISCO	Tanzania Industrial Studies and Consulting Organization
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WCST	Wildlife Conservation Society of Tanzania
WWF	World Wide Fund for Nature
UNCED	United Nations Conference on Environment and Development

1 Introduction

1.1 The study

This report has its origins in a training needs assessment study for EIA in Tanzania (IRA/IIED, *1995*). The study surveyed legislation relevant to current and future EIA implementation and the institutions involved in various aspects of resource management relevant to future EIA implementation in Tanzania. The study also provided an assessment of implementation capacity and training needs in the country. A striking finding of the study, was that little could be learned about the *EIA process* as a whole (for example, the extent to which the EIA process involved different stakeholders, the extent to which it influenced project decisions *etc.*). Nor was it possible, using reviews of environmental impact statements (EISs) alone, to determine the effect of the EIA process on the planning, design and implementation of development projects.

Few studies have objectively reviewed EIA effectiveness in Africa, and none have attempted to do so by including an objective and comprehensive review of past performance. Thus, the objectives of this study were to:

- evaluate the quality of environmental assessment processes undertaken in Tanzania;
- evaluate the effect of EIA on decision-making and planning processes;
- determine the factors that contribute to better EIA performance; and
- identify lessons and define policy implications to improve EIA performance.

This study is retrospective and holistic in nature. It reflects on 16 years of EIA practice in Tanzania. It also sheds light on the current and potential effectiveness of EIA as a planning tool and, in a more general sense, its role in supporting planning for sustainable patterns of development. Importantly too, the study draws from this experience and identifies lessons of relevance to EIA policy and practice. Whilst these are based on EIA experience in Tanzania, many are relevant to EIA practice elsewhere.

To achieve its objectives, the study comprehensively reviewed past EIA practice, and explored the way in which EIA has contributed, directly or indirectly, to the activities and processes of planning and decision-making. In many cases, the impact of EIA on the planning process proved difficult to determine, and not all impacts could be evaluated in quantitative terms. Hence, to some extent, the analysis has depended on the use of qualitative indicators.

Examples of direct impacts of EIA on planning and project implementation include:

- alterations to the way in which development projects are planned and implemented;
- decisions not to proceed with projects where the EIA has identified potentially significant environmental and social impacts; and
- decisions to adopt alternative approaches or project designs to achieve objectives as a result of alternative design options identified by the EIA.

Examples of indirect impacts of EIA on planning and project implementation include:

- changes in attitudes or organizational culture attributable, at least in part, to the EIA process;

- the stimulation of public debate on environmental and social issues arising from development proposals; and
- the use or adoption of EIA as a focus for public debate and negotiation.

In order to address these issues, an adaptive approach to review was adopted. From the outset, the research was guided by the views and perceptions of those with experience of environmental assessment practice in Tanzania. It combined the use of structured desk review techniques, with interviews and in-depth case study analysis. Importantly too, the draft findings have been thoroughly reviewed and discussed by a broad range of contributors prior to the finalisation of this report.

1.2 Selection of national case studies

This report comprises the first of a series of national case studies focusing on EIA performance assessment (subsequent case studies are planned in South East Asia and Latin America). Each case study will focus on the performance of EIA from contrasting contexts (or 'enabling conditions') and each will use structured approaches broadly similar to the methodology developed by this research process. This will allow comparison between case studies. But why start with Tanzania? A number of considerations informed the choice of the case study:

- Tanzania is on the threshold of adopting a national framework for EIA, thus offering an opportunity to tailor the findings of this research to make a practical contribution to national EIA policy;
- Tanzania has accumulated considerable experience of EIA on which to reflect;
- Tanzania, in common with many developing countries, appears to lack many of the characteristics thought to be critical for effective EIA, such as robust planning frameworks, strong environmental management institutions, well trained human resources and available financial resources (see Ebisemiju, 1993). Hence, Tanzania provides an opportunity to reflect on the potential role and limitations that EIA may have in a large number of developing countries, and in which development assistance agencies are currently investing heavily in EIA;
- the large number of donor-supported EIAs undertaken in Tanzania provided a good opportunity to reflect on the impact of donor guidelines on EIA practice, especially where these are applied in the absence of a supportive national EIA framework – a situation typical of many countries in Africa, Asia and Latin America.

1.3 Wider policy implications

Great faith and resources have been invested in environmental assessment as a means of 'achieving sustainable development (see Box 1.1). EIA is now 'big business'. Today, it is estimated that more than 100 countries have national EIA systems in place. When autonomous provincial jurisdictions are added, the number of EIA regimes is thought to be around 200 (Sadler, 1996). Fueling this interest requires substantial financial resources from private and public sources which could be allocated elsewhere, at least theoretically.

In 1993, the President of the Canadian Federal Environmental Assessment Review Office stated:

> "Has environmental assessment achieved its goal of helping... reach better decisions? This is the fundamental question that all... practitioners must begin to address systematically" (Dorais, 1993).

Four years later, there is still a lack of empirical research on the influence of EIA on decision-making and implementation, particularly in developing countries. Most studies that have commented on EIA performance have focused on experience in developed countries and most have not addressed two key questions facing EIA: Firstly, does EIA represent 'good value for money'. If not, would funds currently devoted to EIA be better targeted elsewhere? Secondly, is EIA being applied in a way that is relevant to decision-making in the country? If not, should EIA be adapted or redesigned to suit the context in which it is used. Most policy-makers and development planners, particularly those working within international development organizations, are not in a position to determine whether funds currently devoted to EIA would be better re-targeted, nor whether they need to adapt or reform the way in which EIA systems are designed and applied.

Box 1.1. Big business: the spread of EIA worldwide

EIA is now widely institutionalized and accepted throughout the world, and interest continues to grow. In 1994, the International Institute for Environment and Development (IIED) published a review of EIA guidelines for:

- Fifty five countries and federations;
- All six multilateral development banks (including the World Bank and most regional development banks);
- Eleven bilateral development agencies;
- Eight United Nations organisations (including the United Nations Development Programme, the Food and Agriculture Programme and the World Health Organisation);
- Six intergovernmental organisations (including the European Commission and the Organization for Economic Cooperation and Development).

Since publication of the IIED review in 1995, an even greater number of countries have adopted environmental assessment in policy, legislation and/or practice.

Source: Roe *et. al.* (1995).

What is known about the influence of EIA on decision-making? Until recently, surprisingly few studies had addressed this key question. Where studies had commented on EIA performance, these had primarily been undertaken in the industrialized countries. These include those for EU member states (CEC, 1993); and for the United States, New Zealand, Australia and Canada (Wood, 1995). The results of most studies paint a mixed picture of performance, with some elements of the EIA process scoring moderately well, and others scoring rather poorly.

In contrast, the International Study of the Effectiveness of Environmental Assessment – commonly referred to as the 'effectiveness study'[1] (Sadler, 1996) concluded that:

> "What comes through is a clear indication that EA can and does make a difference to decisions taken and that it supports environmentally favourable actions in implementing development."

This conclusion is based largely upon the results of a questionnaire survey of EIA stakeholders, mainly practitioners, undertaken as part of the 'effectiveness study'. A component of this survey explored respondent perspectives of the influence of EIA on decision-making. In summary:

- EIA was considered 'very' or 'moderately' successful in ensuring that the 'full range' of environmental considerations were taken into account during decision-making, but only 'marginally successful' or 'not successful' in ensuring that social factors were taken into account;
- EIA was perceived as being moderately influential in establishing terms and conditions of approval; and
- EIA was seen as having marginal or no influence on ensuring that appropriate follow-up arrangements are in place.

One of the key conclusions of the Effectiveness Study was that a 'sharpening' of EIA tools is required. Yet the preliminary indication from earlier work in Tanzania (IRA/IIED, 1995) suggested otherwise, and pointed to a need to address more fundamental issues (such as institutional capacity and organization and political support) if EIA is to contribute effectively to planning. This study report, which essentially represents a 'widening and deepening' of the 1995 study, reflects on these issues further, and is based on a comprehensive review of EIA in practice.

[1] The study was launched in 1993 and examined the status of environmental assessment world-wide. The study was led by the Canadian Environmental Assessment Agency in collaboration with the International Association for Impact Assessment (IAIA).

2 EIA in Tanzania

2.1 Evolution of EIA in Tanzania

The first 'formal' EIA process in Tanzania was undertaken for the Stiegeler's Gorge Power and Flood Control project undertaken in 1980 (RUBADA, 1980)[2]. Since then, EIA practice has evolved only slowly. The development of national EIA policy and legislation, in common with experience throughout Africa (Ebisemiju, 1993) has been even slower, and remains incomplete. Of over 26 genuine EIAs assessed by this study, 18 (70%) have been undertaken to fulfil donor requirements.

There have been signs of emerging political interest in EIA in the country. In 1995, African environment ministers and government representatives met in Durban to discuss EIA and areas for priority action. The Tanzanian delegation signed the communiqué pledging affirmative action to promote EIA as a planning tool (Box 2.1), suggesting a growing commitment to the process. Recently, the President of Tanzania has reaffirmed commitment to pledges made at the 1992 United Nations Conference on Environment and Development (WCST/IRA/Agenda, 1996). However, lack of resources, expertise and institutional capacity continue to present formidable barriers to the implementation of these pledges. National EIA guidelines are currently under preparation (section 2.3), but improvements in political support will still be required if these new guidelines are to make a real difference.

A number of sectoral policies, such as those for tourism, land and energy, advocate the use of EIA in project planning. For example, the proposed National Land Policy will require EIA studies prior to every major project. Some development legislation, such as the Mining Act (1979) also requires proponents to take account of environmental and social issues. However, neither of these instruments is supported by guidelines, and there has been little compliance with such legislative and policy provisions. Various environmental policy documents, such as the National Conservation Strategy for Sustainable Development (NEMC, 1994) and the National Environmental Action Plan (MTNRE, 1994) recognise explicitly the need for an effective environmental framework, but lack legislative backing (see Hitchcock, 1994; IRA/IIED, 1995).

National capacity for the management and implementation of environmental assessment is extremely limited (IRA/IIED, 1995). Box 2.2 summarises the results of a recent analysis of EIA capacity in Tanzania. Furthermore, with 120 districts throughout the country, the only institution with potential to manage such a process, the National Environmental Management Council (NEMC) will find it extremely difficult to implement the emerging guidelines effectively. These conclusions were supported by a regional review of institutional support for environmental management, undertaken for the United Nations Food and Agriculture Programme (Spooner, Singh and Mugabe, 1994). This review recommended that immediate attention is given to : building capacity to undertake EIA within national institutions and academic organisations; strengthening national capacity to collect baseline information; and developing appropriate institutional structures.

[2] Although a number of environmental studies of earlier development projects had been undertaken prior to 1980.

Box 2.1: Areas for immediate priority action identified at the 1995 African Ministers meeting on Environmental Impact Assessment

"We, the African Ministers and government representatives responsible for the environment...identified the following areas for immediate priority action:

(a) promoting the use of EIA as a continuous planning tool and the strengthening of institutional and legal frameworks for this purpose to ensure the enforcement of EIA by fully integrating this tool, including biophysical and socio-economic aspects, from the early stages of policies, plans, programmes and project formulation, implementation, monitoring the commissioning and evaluation.

(b) sensitising policy and decision makers...

(c) establishing (an EIA database, a geographic information system, information exchange and a network of experts etc...)

(d) promoting co-operation (exchange of experiences and developing guidelines)...

(e) promoting co-operation between developed and developing countries...

(f) promoting capacity-building, based primarily on the use of African expertise and institutions, and urging our countries to:

- develop curricula and other training programmes to incorporate environmental education and EIA at all levels of education and training;
- encourage governmental and non-governmental organisations active in environmental management to participate in all related capacity-building activities, as well as in regional training programmes;
- enhance public awareness and popular participation, particularly of NGOs, women, youth and community level organisations, in the development and use of EIA; and
- encourage all environmental movements active in the region to promote the development and use of EIA in all their activities..."

Source: Extracts from the communiqué co-signed by all ministerial delegations present at the Africa High-Level Ministerial Meeting on EAs in Africa, held in Durban, South Africa, June 1995 (in: Goodland *et al.*, 1996).

2.2 EIA in sectoral policies

Despite slow progress at national level, there are some notable initiatives to incorporate EIA through sectoral policies and planning. These include:

- Tanzania National Parks (TANAPA)

TANAPA's policy now requires the preparation of an EIA for all developments and activities within and adjacent to the national park boundaries (TANAPA, 1994). This policy includes all development activities proposed by TANAPA, as well as other government agencies and private sector proponents. EIA is also being extended to cover the General Management Plans currently being prepared for each national park (eg. TANAPA Planning Unit, 1994).

- Department of Wildlife

Department of Wildlife draft policy requires all 'significant' development proposals within Tanzania's protected areas (which includes game controlled areas, game reserves and forest reserves) to be subjected to EIA (Department of Wildlife, 1996). The Ngorongoro Conservation Area Authority has a similar policy. However, these policies are not supported by legislation.

Box 2.2: Key training needs for EIA in Tanzania

A recent study of EIA development in Tanzania reviewed past experience, assessed expertise available for EIA and identified priority training needs. The study found that EIA studies undertaken in Tanzania have relied heavily on international consultants and expatriate expertise, limiting the development of domestic capacity to undertake EIA. However, it also concluded that the increasing influence of the private sector on national development and the enactment of national-level EIA legislation will significantly increase the demand for indigenous expertise.

The study found that there is a considerable amount of expertise relevant to EIA in Tanzania, and suggested that ways need to be found of harnessing this expertise so that it can better serve the EIA process in the country. It showed that in the short and medium term, training needs to be targeted at:

- improving awareness of the role of EIA in national policy and planning and redressing popular misconceptions, especially at a senior policy and decision-making level; and
- enhancing management capacity for EIA, and focus on improving capacity for screening, scoping and EIS review.

Source: IRA/IIED, (1995)

- Tanzania Electric Supply Company (TANESCO)

TANESCO has made EIA mandatory for all power generation projects and for the construction of transmission lines.

2.3 Efforts to introduce national EIA guidelines

National guidelines are currently being formulated. Draft guidelines have been discussed at two cross sectoral national workshops and one district consultation involving forty four districts (NEMC, pers comm.) and they envisage the formulation of EIA legislation. They propose the establishment of a national Environmental Regulatory Body (ERB) which will oversee Environmental Units (EUs) at district and sectoral levels. It is envisaged that the ERB and EUs will be responsible for screening projects and the review of EIA reports and that the ERBs will also be consulted during scoping, although this will be the responsibility of the proponent. The ERB will also be responsible for approving terms of reference prepared after scoping. Reporting guidelines are likely to follow standard procedures used in other countries, particularly those of the Republic of South Africa (DEA, 1992), Ghana (EPA, 1996) and those prepared by the Tanzanian National Parks (TANAPA, 1994).

In a context where environmental awareness is low, and corruption and the abuse of power is pervasive, a clear legislative framework provides the only realistic option for making EIA effective. Legislation would also strengthen the government's resolve to enhance the attention given to environmental considerations in decision-making processes, a pledge recently made by Tanzania's President (WCST/IRA/Agenda, 1996). Disagreements among certain government departments, and a lack of environmental leadership and commitment within government, have so far prevented progress on this key issue. In the meantime, EIA will continue to rely upon administrative provisions, such as those contained within the National Conservation Strategy for Sustainable Development (NCSSD) and the National Environment Action Plan (NEAP).

2.4 Practical experience of EIA

There is no documented list of EIAs so far undertaken in Tanzania. This study identified over 40 documents described or purporting to be environmental assessments. Of these, only 26 were considered to be 'genuine' EIAs. These are listed in Box 2.3 and their location shown in Figure 2.1:

Box 2.3: Environmental Impact Assessments undertaken in Tanzania

1980

- Stiegeler's Gorge Power and Flood Control Project (RUBADA, 1980)

1992

- Madibira Rice Project (Halcrow, 1992)
- Kilombero Valley Hardwood Project (IIED/IRA, 1992)
- Development on Changuu (Prison) Island, Zanzibar (Ross, 1992)
- Construction of an Oil Terminal at Tanga (Nikundiwe *et al*, 1992)

1993

- Small Scale Mining: A Case Study of Merelani, Kahama, Nzega, Geita and Musoma (CEEST, 1993)
- Mine Development Project, Merelani Block "C", Kiteto District, Arusha Region (BICO, 1993)
- Cathodic Protection Stations in Mikumi National Park (IRA, 1993a)

1994

- Ikwiriri-Somanga Road Project (IRA, 1994a)
- Redevelopment of the Hydro-Electric Power Station at Pangani Falls (Norplan, 1994)
- Serengeti Serena Lodge Project (IRA, 1994b)
- Grumeti Serena Tented Camp Project (IRA, 1994c)
- Songo Songo Gas Development Project (HBT Agra, 1994)
- Tanzam Highway Rehabilitation Project (IRA, 1994)

1995

- Mutukula-Bukoba-Lusahunga Road (MoW, 1995)
- Refugees Influx in Ngara and Kibondo Districts (Norplan, 1994)
- Singida-Nzega Road (Rites-M-Konsult, 1995)
- Manyoni-Itigi-Tabora-Ipole-Mpanda-Kigoma Road (Gannett Fleming Inc, 1995)
- Dakawa Integrated Project (Dakawa II) (TANCONSULT, 1995)
- Makuyuni-Oldeani, Ngorongoro Access Roads Study (Gauff Ingenieur Consulting Engineers, 1995)
- Moshi Pesticides Plant (SCANDIACONSULT, 1995)
- Lower Kihansi Hydropower Project (Norplan, 1995)
- Tanesco Ubungo Generating Site Emergency Power Plant (Agra Earth *et al.*, 1995).
- Shrimp Farming Project in the Rufiji Delta (Boyd, 1996)

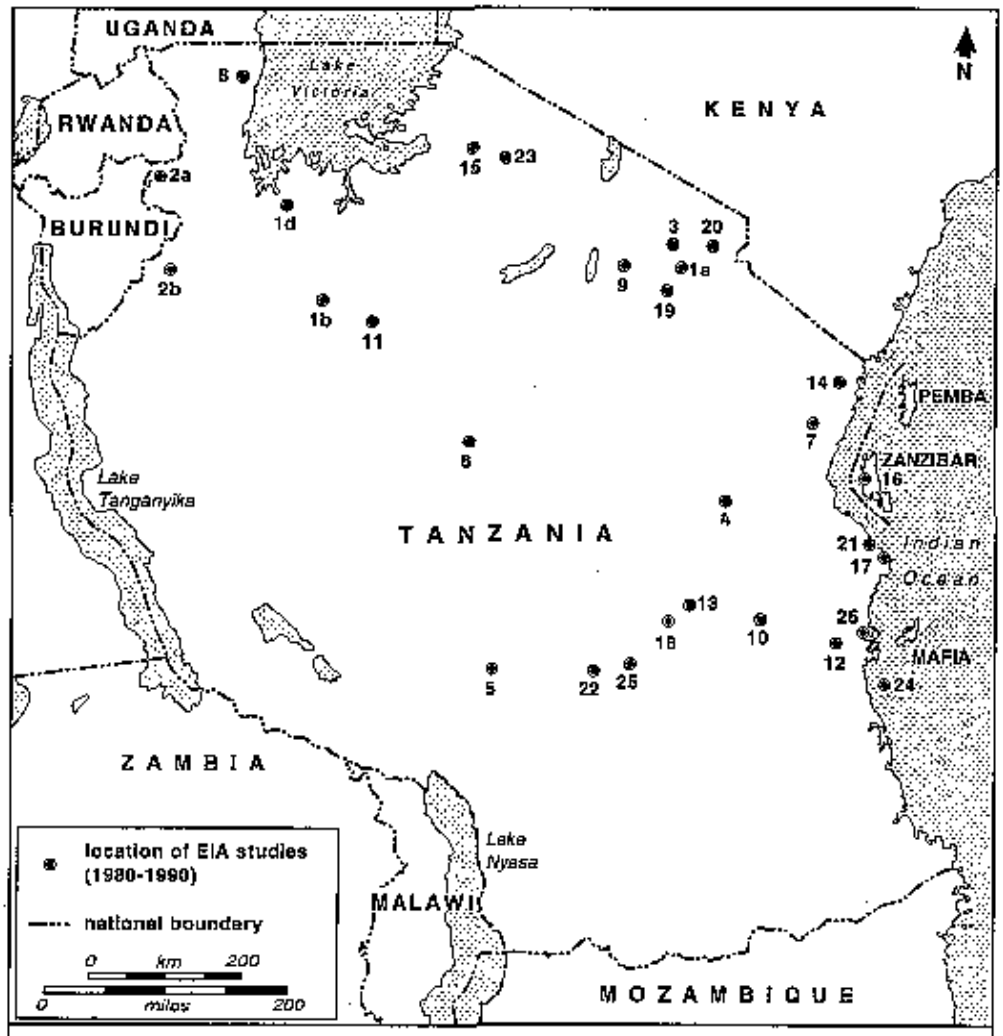
1996

- Ikela Water Scheme (IRA, 1996)
- Upgrading of the Makuyuni-Musoma Road (Norconsult, 1996)

1997

- Prawn farming in the Rufiji Delta (Ndimbo *et al.*, 1997)

Figure 2.1: Location of EIAs reviewed in this study



Location of EIA studies (1980-1990)

1a Small Scale Mining (Merelani)
1b Small Scale Mining (Kahama)
1d Small Scale Mining (Geita)
2a Refugee Influx (Ngara)
2b Refugee Influx (Kibondo)
3 Graphite Mining Project (Merelani)
4 Dakawa II Integrated Project
5 Madibira Rice Project
6 Manyoni-Kigoma Road Project (Iligi)
7 Pangani Falls Hydropower Project
8 Mutukula-Bukoba-Lusahanga Road Project
9 Mukuyuni-Musoma Road Project (Mukuyuni)
10 Stiegler's Gorge Power & Flood Control Project
11 Singida-Nzega Road Project (Nzega)
12 Ikwiriri-Somanga Road Project
13 Cathodic Protection Station (Mikumi NP)
14 Tanga Oil Terminal Development
15 Grumeti Serena Tented Camp Project
16 Changuu Island Development (Zanzibar)
17 Tanzam Highway Rehabilitation Project
18 Ikela Water Scheme
19 Makuyuni-Oldeani Road Project (Makuyuni)
20 Moshi Pesticide Plant
21 Ubungo Emergency Power Plant
22 Lower Kihansi Hydropowor Project
23 Serengeti Serena Lodge Project
24 Songo Songo Gas Development Project
25 Kilombero Valley Hardwood Project
26 Rufiji Delta Shrimp Farming Project

3 Research approach

The following activities were undertaken as part of the study:

3.1 Methodology development

A desk study of existing EIS review literature was undertaken to help guide the development of an outline EIA performance review approach. This outline approach was then discussed at the project inception workshop hosted by the Institute of Resource Assessment at the University of Dar es Salaam. Here, a broad range of stakeholder representatives exchanged views on EIA performance, and expressed their own expectations for the study. Participants included representatives from government and private sector 'proponents', such as the national electricity generating utility (TANESCO), a government environmental agency – the National Environmental Management Council (NEMC), academic and research institutes, and non governmental organisations.

The plenary presentations and the discussions held during the working groups led to the adjustment of some of the specific goals of the study, helped the study identify new case studies, and contributed to the process of refining the working methodology. A summary of the research methodology is outlined in Figure 3.1.

3.2 Interviews

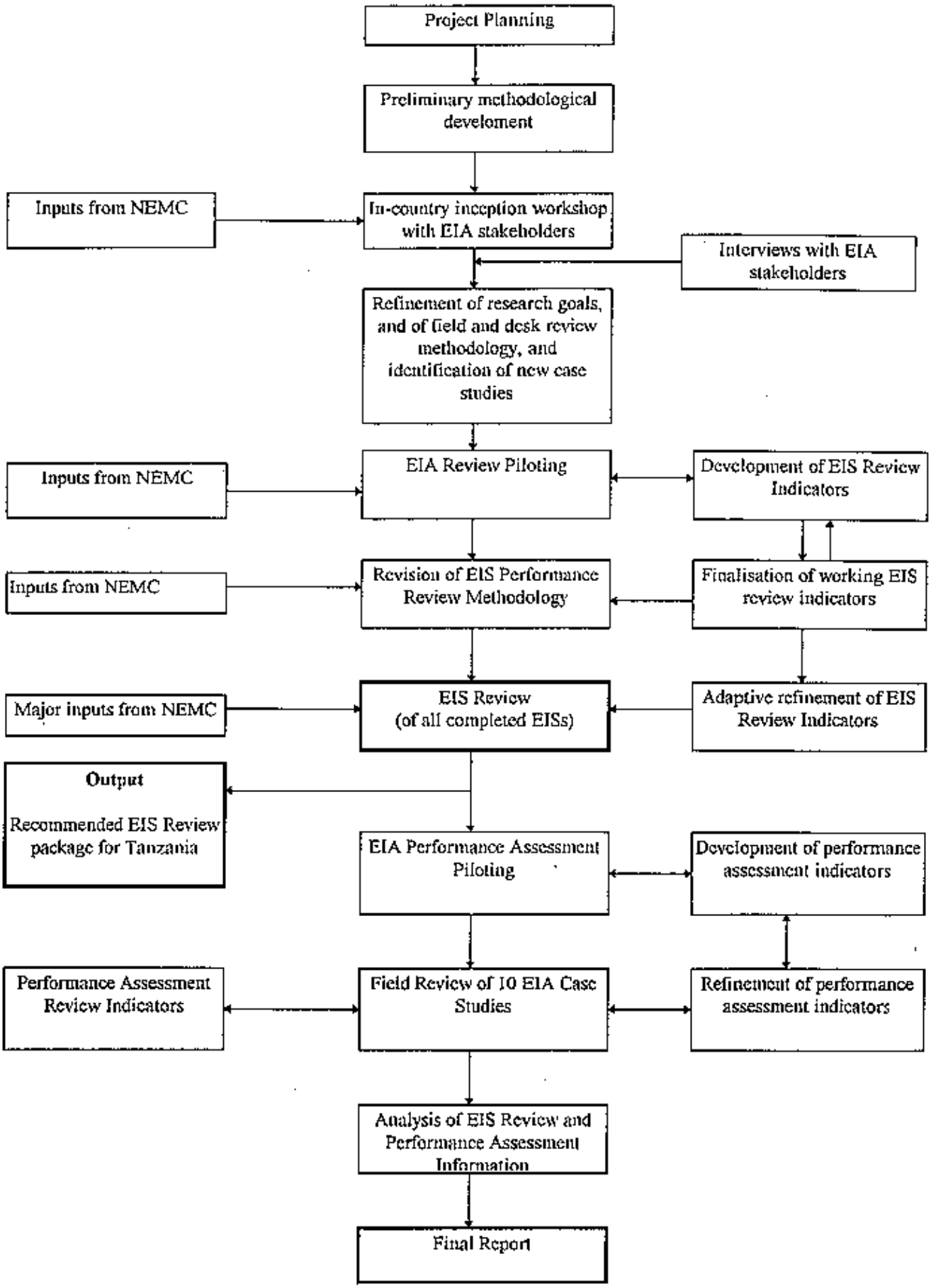
Interviews and meetings were conducted with a broad range of organizations and individuals with experience of EIA in Tanzania, and with EIA user-groups, such as government-owned utilities, private sector organizations and non governmental organizations. Interviews were structured to explore user perceptions of the utility and efficacy of the EIA process in Tanzania, and to seek inputs as to how the process might be improved to meet the needs of user groups whilst better serving environmental management objectives. An additional objective was to explore the extent to which EIA exposes planners, decision-makers and proponents to the environmental and social implications of development. Interviews were also used during the field review stages, to explore project-specific features of the EIA process.

In most cases, the EIAs under review had been completed several years ago. This made it difficult to locate all of the key project staff to interview – some had moved on, others retired, etc. The time lags also introduced the risk that recollections had become tainted with the benefit of hindsight and/or subsequent experience. Care was therefore taken in the use of information provided in these interviews, and wherever possible, this was 'triangulated' by comparing with other document and non-document sources.

In general, face-to-face interviews were found to be the most appropriate way of obtaining information on the EIA process, and often revealed a great wealth of experience and insights into practical issues associated with EIA implementation as a whole. Where face-to-face interviews were not possible, questionnaire surveys, targeted letters or telephone interviews were used.

The research team's previous experience of semi-structured interviews in environmental research in Tanzania found that 'over-structuring' of the interview process led to rather stilted and fragmented interviews. Therefore, an approach was adopted which focused first on the broader issues and then dealt with more specific issues.

Figure 3.1 Research methodology



3.3 Review of EIA statements

The next stage of the research involved developing, through an iterative process with stakeholders, a structured, objective and replicable approach to desk review of EISs and associated documentation. The use of a structured review methodology was important for two reasons. Firstly, it enabled comparisons to be made between different types of EIS. Secondly, it helped identify a quality control mechanism that matched Tanzania's needs with available resources, and that was appropriate to the Tanzanian context. As a result, the study was able to contribute to efforts to establish such a mechanism as part of Tanzania's evolving EIA framework.

A number of existing EIS review approaches were first tested in a pilot exercise undertaken with the National Environmental Management Council. Two systematic approaches emerged as having potential for providing the basis of a quality control mechanism in Tanzania (Box 3.1): an adapted version of the widely used methodology of Lee and Colley (1992), and review criteria developed by the Institute of Environmental Assessment (IEA, 1990). The pilot exercise concluded that the IEA criteria were the more appropriate. These criteria were then modified to improve their utility for this study.

Box 3.1: Comparative utility of two well-established EIS review approaches

Two EIS review processes – Lee and Colley (1992) and IEA (1990) were compared in a pilot exercise. The analysis was undertaken by a team from IRA working with a representative of the National Environmental Management Council – the organization with current responsibility for overseeing EIA in Tanzania.

The IEA criteria were found to be user-friendly and flexible, and were considerably less time-consuming than Lee and Colley's approach. In contrast, the highly-structured and mechanistic characteristics of Lee and Colley's approach lent itself to higher levels of replicability. Their downside was that difficulties were experienced in applying this method to many of the environmental impact statements under review – especially those that did not conform to a conventional EIA format. On balance, it was decided that the IEA approach should be used for the purposes of this project. The heterogeneous nature of the 26 statements under review demanded a flexible method, and one that could be applied relatively quickly. The IEA method was first modified to improve its utility and applicability to EIA in the Tanzanian context, rather as Boyle (1995) has modified the Lee and Colley's approach for use in Zimbabwe.

In this study, we identified over 40 projects and plans for which some form of environmental assessment report had been prepared. However, the term 'environmental impact assessment' appears to have been used rather loosely in Tanzania. Many of the environmental reports reviewed, although often termed EIAs, consisted of reports that might be better considered as environmental screening documents. This study considered that only 26 of these documents could be described accurately as environmental (impact) assessment statements. This sample formed the basis of this review.

Each of the 26 EISs was then reviewed against two sets of criteria: the modified IEA criteria (listed in Box 3.2); and a series of indicators designed to extract additional information required for the analysis (Box 3.3). Some of these indicators also provided a 'second opinion' on the results obtained using the IEA criteria.

The review team engaged in round table discussions to agree on an aggregate

rating for each individual component of each EIS. The EIS review process was also used to identify key individuals and issues for follow-up in subsequent stages of the performance assessment review (see below).

Box 3.2 : Review criteria used in EIS review (modified from IEA, 1990)

- **Description of the Development, the Local Environment and the Baseline Conditions**
  Description of the Development
  Site Description
  Residuals
  Baseline Conditions
- **Identification and Evaluation of Key Impacts**
  Identification of Impacts
  Prediction of Impact Magnitude
  Assessment of Impact Significance
- **Alternatives and Mitigation**
  Alternatives
  Mitigation
  Commitment to Mitigation
- **Communication of Results**
  Presentation
  Balance
  Non-Technical Summary
  Terms of Reference
  Gaps and Uncertainties
- **Stakeholder Involvement in the EIA Process**
  Government
  Expertise
  Local People Involvement

3.4 Detailed case study review

As highlighted in Chapter 1, environmental impact *statements* often reveal very little about the EIA *process* as a whole. Nor do they usually describe their impact on the project design process. For this reason, detailed *post hoc* reviews of a number of EIAs were undertaken to determine:

- the strength and weaknesses of each EIA process;
- the influence of the EIA on project design, planning and implementation; and
- the indirect influence of the EIA, such as its role in promoting learning or in conflict resolution.

Of the 26 projects in Tanzania which were considered to have been subjected to a genuine EIA, only nine have so far proceeded to implementation. Each of these was subjected to detailed literature review, and discussions were held with project field staff, local people and district government officers. For each case study, whenever possible, key staff responsible for project design and implementation were interviewed, and also the practitioners responsible for preparing the EIS. Examples of issues discussed during the semi-structured interviews are shown in Box 3.4. Case study profiles were then developed, based on field assessment and the interviews. Whilst all examples provided some lessons of value to EIA policy, seven case studies were selected to illustrate different characteristics of EIA performance.

Box 3.3 : Indicators used for EIS and field review

- Type of EIA process (preliminary or comprehensive)
- Initiation of the EIA process (stage of project cycle)
- Proponent – EIA practitioner interaction*
- Inclusion of terms of reference (ToR)
- Inclusion of an integrated CBA/economic evaluation
- Inclusion of an integrated SIA/social analysis
- Assessment of health impacts/inclusion of an EHIA
- Assessment of ecological impacts
- Determination of impact significance
- Examination of project alternatives
- Environmental management and monitoring
- Compliance with mitigation recommendations*
- Compliance with monitoring recommendations*
- Central government involvement
- Local government involvement
- Involvement of expert institutions
- Involvement of local people and communities
- Influence on project design*
- Influence on project operation*
- Clarification/statement of links with national policy/legislation.
- Use of domestic or foreign expertise
- Other significant omissions

Those marked by an * indicate those that could only be verified by detailed case study review.

Box 3.4: Examples of issues raised in semi-structured interviews

General

- How could the EIA process have been improved for this particular project?

Influence on decision-making

- Did the *EIS or EIA process* influence the decision-making process (such as for finalizing project design, selecting project sites, or for the final approval of the project)?
- Was the project design modified as a result of the environmental assessment process?
- Did other material considerations 'override' the findings of the EIA process?

Public involvement

- What approaches to public involvement were adopted as part of the EIA process?
- To what extent were the 'public' involved in the scoping process (or if no scoping process was undertaken), defining the ToR for the project?
- Which groups of stakeholders were involved in a formal public involvement process?
- What proportion of time was devoted to trying to involve local communities in the EIA process?
- Did the results of public involvement within the EIA process influence the decision taken?
- Was the EIS statement made available for public comment?
- If so, in what way? (eg. were local language summaries made available? were the findings of the EIA process explained verbally to non-literate communities? etc.)
- Was there 'too much' or 'too little' public involvement in the EIA process?

EIA Process

- Did the EIA team work closely with those responsible for project design and implementation?
- Was some form of scoping undertaken?
- When did the EIA process begin in relation to the project design and implementation phases of the project?
- Was a review of the EIS undertaken? If so, by whom?

Technical and Procedural Aspects

- What mitigation measures recommended by the EIA process have been implemented and what effects have these had on the project and environment?
- Did the EIA practitioners use guidelines and were these found to be appropriate?
- Were project alternatives considered as part of the EIS?
- Is there an environmental monitoring programme related to the project?

4 Research findings

In this chapter, we summarise the results of the three components of the performance assessment process:

- interview surveys conducted with EIA stakeholder groups (Box 4.1);
- the review of environmental impact statements, and;
- detailed case study analysis.

4.1 Interview surveys

The different stakeholders interviewed are listed in Box 4.1. The view that EIA can contribute to better decision-making is by no means universally held in Tanzania, particularly because of the lack of a robust institutional and legal framework. Previous studies have also noted similar scepticism (IRA/IIED, 1995; Guilanpour, 1995). However, there is support for better EIA within key stakeholder groups, notably amongst government agencies, practitioners and the private sector.

Box 4.1: Stakeholder groups and organisations interviewed

Project Proponents

- Ministry of Works (MoW)
- Ministry of Industries (MoI)
- National Chemical Industries (NCI)
- National Food Corporation (NAFCO)
- Tanzania Electric Supply Company (TANESCO)
- Tanzania-Zambia Pipeline Limited (TAZAMA)
- Serena Group Limited
- Danish International Development Agency
- Graphtan Ltd.
- Kilombero Valley Teak Project

EIA Practitioners

- Centre for Energy, Environment, Science and Technology (CEEST)
- Agenda Business Care Limited
- Institute of Resource Assessment (IRA)
- Bureau of Industrial Cooperation (BICO)
- Norconsult

Regulatory Agencies

- Tanzania National Parks (TANAPA)
- Serengeti National Park
- Mikumi National Park
- National Environment Management Council (NEMC)
- Division of Environment (DoE)

4.1.1 Legal and institutional issues

- **Most government agencies support the introduction of EIA legislation**

There were several expressions of general support for the introduction of EIA. For example, a representative of the Ministry of Trade and Industries expressed the view that "*EIA balances various interests [in project planning], and therefore is appropriate in Tanzania*". Tanzania National Parks (TANAPA) bases its support for EIA on experience, since many development projects within the national parks cause tangible direct impacts. Until recently, TANAPA has lacked an appropriate mechanism to deal with these impacts.

TANAPA – the only government agency to have adopted EIA in policy – is now strongly committed to EIA as a regulatory and decision-making tool. The authority has found that a) EIA has helped ensure that development projects within the national parks take greater account of environment and social considerations; b) that EIA has provided proponents with an incentive to improve the environmental performance of development projects within parks; and c) that EIA has helped define operating rules, and foster better working relationships between private sector proponents and TANAPA.

- **Reluctance to adopt EIA is still prevalent within the private sector**

Some private sector proponents viewed EIA as 'time wasting' and a 'waste of resources'. EIA was also seen by some as an 'impediment' to development. Respondents expressing this opinion included the staff of some private sector companies and government ministries, including the Ministry of Works and TANESCO. Scepticism has often been faced by EIA practitioners working in Tanzania. Box 4.2 outlines a range of views encountered during this and previous studies (IRA/IIED, 1995; Guilanpour, 1995) on attitudes towards EIA in Tanzania.

- **There is a need to adapt EIA to the national context**

The view that donor guidelines are often inappropriate or insensitive to the cultural and political realities of Tanzania was commonly expressed. One senior government official summarises this widespread view succinctly:

> "no single environmental problem is the same everywhere...we know our own problems, we know our own people and there are aspects which are country-specific .... guidelines should be left to individual countries".

A number of respondents argued that donor EIA guidelines tended to favour donor priorities for environmental management, and these were not necessarily compatible with, or appropriate to Tanzanian environmental management priorities.

4.1.2 Public involvement and 'ownership' of the EIA process

- **There is a strong consensus that public involvement should be central to EIA practice**

Opinion on the issue highlights an interesting paradox. Despite the near absence of public involvement in EIA practice in Tanzania, there was a consensus that this should be a central feature of EIA. Different views prevailed as to why this might be the case (see below).

- **Inadequate scoping, poor terms of reference and insufficient time constrain public involvement**

Practitioners cited these factors as the main reason for the absence of attention

to local concerns and issues during EIAs in Tanzania. EIAs are often commissioned as 'after thoughts' in the project planning and implememtation processes, leaving little opportunity for public involvement, nor the consideration of alternative poject options.

Box 4.2: Misconceptions and attitudes to Environmental Impact Assessment

Nuisance arguments

- 'EIA is just a symbolic exercise to satisfy the rules. We don't really need to take it seriously'.
- 'We know all about the issues involved. We have already decided on the action we are going to take. An EA is not necessary'.
- 'EIA is an obstructive nuisance – it interferes with getting on with our projects'.

Time and money arguments

- 'EIA takes too long – we need to get this project finished quickly.'
- 'We can't afford EIA – it adds extra costs to project planning'.

'We Know Better' arguments

- 'EIA and participation is all very well, but local environmental issues obscure national requirements'.
- 'What is the point of involving the public. What do they know? EIA is a technical issue that should be carried out by qualified experts'.
- 'The public are only likely to raise difficult questions and create difficulties for us'.

'Skeletons-in-the-Cupboard' arguments

- 'Can't you say something more favourable about this project in your EIA report. It paints a very poor picture of the project! We need to say positive things when we submit the proposal...'.
- 'We must use our own technical staff to undertake the EA. They are more likely to look upon the project favourably'.
- 'An EIA would run the risk of our project being cancelled'.

'We're Not Good Enough' arguments

- 'We can't use experts from our own country. There is no-one in the country with expertise in EIA'.

- **Socio-cultural factors constrain stakeholder involvement in Tanzania**

A number of interviewees argued that the culture of decision-making in Tanzania works against the involvement of different levels of government, the involvement of different sectoral departments or agencies, and against involving local people. In his study of the effectiveness of EIA in Tanzania, Guilanpour (1995) reports that survey respondents asserted that the country was socio-culturally, a 'non-participatory society'. This is manifested in attitudes, and also in institutional and legal provisions. For example, Tanzania lacks any statutory public disclosure legislation or a public inquiry system geared to localised issues. Such public interest 'safety nets' often perform as bulwarks in mature EIA systems elsewhere.

- **There are widespread misconceptions that EIA documentation is 'confidential'**

There is a widespread belief that EIA documentation should be confidential. For example, one practitioner stated that *"EIA was the property of the one who finances the project"*. Guilanpour (1995) recorded an observation that *" the documents we produce are confidential to our clients; it is up to our clients whether they wish to publish or otherwise"*. The National Food Corporation believed that, since the African Development Bank (AfDB) funded the EIA for the Madibira Rice Project, then the EIA was AfDB's 'property' and was therefore not a document they needed to consider – even though they were the proponents! The cost of reproducing EIA documents for public review was also cited as a constraint.

- **Non-governmental organisations are distrusted by the private sector and parts of central government**

Practitioners working on behalf of the government and private sector are not encouraged to work with NGOs (at national or local level) in the EIA process.

4.1.3 EIA review

- **EIA review is *ad hoc* in Tanzania**

Project proponents expressed their frustration that there is seldom feedback from government regulatory or donor agencies on the adequacy of draft environmental impact statements. Respondents cited the reasons as a) poorly defined responsibilities for undertaking EIA review at government level b) a chronic lack of expertise and resources and c) lack of co-ordination. One engineer stated that an absence of comments was taken to mean that the EIS was 'OK'.

4.1.4 Monitoring and audit

- **Post-completion follow-up is almost non-existent in Tanzania**

Several EIA practitioner organisations expressed the view that, for those EIAs prepared for donor-supported projects, proponents felt little if any 'ownership' of the EIA process, or accountability for the recommendations contained within the EIS. This problem is exacerbated by confidentiality, making it easy for proponents to avoid compliance activities.

- **The absence of institutional mechanisms and legislation hinders compliance enforcement**

In the absence of institutional mechanisms and legal backing, it is unlikely that compliance with the findings and recommendations of an EIS will improve. Voluntary adherence to the findings of an EIS generally imposes short-term operational costs, and these are rarely perceived as being financially justified by most proponents. Several respondents suggested that compliance monitoring should be overseen by an independent commission or agency, and should not be entrusted solely to the project proponent.

4.1.5 Use of Tanzanian expertise

- **The use of national (Tanzanian) expertise can bring long term benefits to EIA**

Creating an indigenous pool of expertise, through on-the-job training, was viewed by many representatives of government agencies, proponents, and practitioners as an important means of developing environmental management capacity. Conversely,

dependence on foreign consultancy inputs – a characteristic feature of many EIAs in Tanzania to date – means that valuable experience is generally lost to the country. Foreign consultants were also seen as expensive and often insensitive to local cultural issues. Despite reservations about the appropriateness of the current dependence on such foreign consultants, there is widespread recognition of the lack of skilled and competent Tanzanian practitioners. Several proponents referred to the poor or unprofessional quality of EIAs prepared by Tanzanian expertise[1].

- **Mechanisms are required to enhance and maintain quality control amongst consultants**

A number of EIA practitioners suggested that mechanisms are required to ensure that practitioners deliver a high standard of EIA. Suggestions included the introduction of a voluntary code or ethics, and the establishment of a professional association of practitioners which could impose a certain level of self-regulation.

4.1.6 'Cost/benefit' perceptions of EIA

- **EIA is sometimes perceived as impeding development**

The view that EIA is inappropriate in Tanzania and can potentially impede development, is common in the country. Guilanpour (1995) quotes a donor representative in Tanzania as saying that EIA is unlikely to be influential in view of pressing economic and development needs. Representatives of the National Food Corporation (NAFCO), an agency of the Ministry of Agriculture, were also strongly of the opinion that economic considerations will always override environmental issues. NAFCO cited the African Development Bank's Madibira Rice Project (Mbeya Rural District) as an example where the findings of an EIA process were over-ruled by economic considerations. EIA is also perceived as adding substantially to project costs, and concerns were also raised about 'inflated' fees being demanded by some EIA practitioners.

- **EIA can avoid environmental damage and costs**

One participant at the inception workshop gave examples of projects where significant costs could have been saved had EIA been applied. The chemical fertiliser factory in Tanga, north east Tanzania, provides one good example (see Box 4.3). Another is the under-performance of the Mtera hydroelectric facility in central Tanzania, where increased water use and diversion within the catchment has reduced water availability downstream and has led to national power shortages. This, in turn, has required the development of additional new generating facilities.

4.1.7 Balance

- **EIA practice is perceived as being biased against development**

Senior government officials and private sector proponents alike felt that EIA was generally 'biased' and 'anti-development'. This is an interesting paradox, and the perception does not appear to be based on any objective evidence. In fact, the review of environmental impact statements (described in the next section) revealed that where an EIS appeared to be biased, this was generally *in favour* of development.

[1] Although it should be noted that foreign consultants were found also to be responsible for producing poor quality and 'unprofessional' environmental impact statements

Box 4.3: A recurring nightmare – the case of the Tanga fertilizer factory

The Tanga Fertilizer Plant was established in the late 1970s, within the Tanga Municipality, and without environmental assessment. Once operating, the plant became the source of serious marine and air pollution, resulting in significant impacts on marine resources, and threats to human health. Pollution issues soon became a source of considerable local concern, and eventually became the subject of debate in the national parliament. The economic costs of rectifying these problems, combined with a worsening economic climate, led to the eventual closure of the plant in the late 1980s. Unfortunately, the problems continue to this day – 2000 metric tonnes of liquefied ammonia have remained on site since the factory closed. Storage of this ammonia has proved extremely costly and continues to pose a risk to health and the environment, should there be spillage or leakage from the (now ageing) storage tanks. Thus, the plant remains an economic and environmental liability. An EIA prior to the commissioning of the project would have identified the unsuitable nature of the site selected for the plant (it was close to sensitive ecological systems and to human settlements). Furthermore, a competent EIA would have addressed decommissioning issues, so that these could have been considered carefully before decision-making.

- **Improved commissioning and review procedures would improve the balance of EISs**

The absence of an objective commissioning and review process was cited as a major factor in allowing proponents to exert undue influence over the EIA process. It was argued that by influencing the work of EIA practitioners, proponents commonly were able to dilute or reduce environmental management responsibilities.

4.1.8 Effect on decision-making

- **Early commissioning of EIA leads to greater influence over project design**

There was consensus amongst practitioners, proponents and donor agencies that the sooner the EIA process was initiated, the more beneficial was its influence on project design. Early commencement of EIA was also thought to provide greater scope for dialogue and joint problem-solving. The EIAs of the Kilombero Valley Hardwood Project (IIED/IRA, 1992) and the Kihansi Hydropower Project (NORPLAN, 1995) were cited as examples.

4.2 The review of Environmental Impact Statements

4.2.1 Introduction

This section presents the results of the review of 26 environmental impact statements using a modified version of the review criteria published by the Institute of Environmental Assessment (IEA, 1990). The results are presented in Table 4.1. Of the statements reviewed, 22 were preliminary in nature, although this was often not clearly stated. Only four statements were considered to report on 'comprehensive' environmental assessment processes, and all of these were for large infrastructure development projects. Supplementary data is drawn from review indicators developed as part of the research, and outlined in Table 4.2.

Table 4.1: Results of the review of 26 Environmental Impact Statements against modified IEA review criteria.

Review Criteria	*Review Grade*							
	A	B	C	D	E	F	N/A	No Data
Basic Information								
Description of the Development	3	16	5	2	0	0	0	0
Site Description	6	10	6	2	1	1	0	0
Residuals	0	9	11	4	1	0	1	0
Baseline Conditions	6	13	5	1	0	1	0	0
Key Impacts								
Identification of Impacts	7	8	8	2	1	0	0	0
Prediction of Impact Magnitude	1	12	9	1	1	1	1	0
Assessment of Impact Significance	3	8	5	8	0	2	0	0
Alternatives and Mitigation								
Alternatives	0	8	6	6	2	4	0	0
Mitigation	1	13	8	4	0	0	0	0
Commitment to Mitigation	1	9	10	1	3	1	1	0
Communication of Results								
Presentation	1	11	8	5	1	0	0	0
Balance	4	10	10	1	1	0	0	0
Non-Technical Summary	0	15	5	3	0	0	0	3
Terms of Reference	4	6	2	3	0	1	0	0
Gaps and Uncertainties	3	8	8	4	2	1	0	0
Stakeholder Involvement								
Government	2	3	11	3	2	2	0	3
Expertise	3	9	5	6	3	0	0	0
Local People Involvement	1	1	8	6	5	3	0	2

Key: (A): Excellent, no tasks left incomplete; (B): Good, only minor omissions and inadequacies; (C): Satisfactory despite omissions and inadequacies; (D): Parts are well attempted, but must as a whole be considered unsatisfactory because of omissions and/or inadequacies; (E): Poor, significant omissions or inadequacies; (F): Very poor, important tasks poorly done or not attempted; (N/A)Not applicable; (No Data): No data available.

4.2.2 The EIA process

The environmental impact statements reviewed often revealed information about the way in which the EIAs were undertaken. For example, usually it was possible to determine when an EIA was initiated in the project cycle, how much time was available to the EIA practitioners, and the types of expertise included in the EIA team. Key points arising from the review are summarised below:

Table 4.2: Results of EIS review of 26 Environmental Impact Statements against supplementary review criteria

Supplementary review criteria	*Percentage of statements in each category*		
	None	Poor/ superficial	Adequate/ comprehensive
Inclusion of an integrated CBA/ economic evaluation	54	31	15
Inclusion of an integrated SIA/ social analysis	4	42	54
Assessment of health impacts/ inclusion of an EHIA	0	50	46
Assessment of ecological impacts	0	38	62
Clarification/statement of links with national policy/legislation	16	42	42
Involvement of expert institutions	8	23	62

- **Project proposals have not been subjected to appropriate levels of environmental assessment**

In the absence of rigorous screening processes, development proposals in Tanzania are generally subjected to much lower levels of environmental assessment than would be the case if, say, World Bank screening criteria had been used. Table 4.3 shows that, of the 26 projects EIAs reviewed, only 7 (27%) were actually 'full' and in-depth EIA processes. Had the World Bank's screening criteria been used, 17 (65%) would need to have been subjected to a 'full' EIA process.

- **EIA processes are usually initiated too late in the project cycle to influence project design**

Almost 40% of EIA processes were initiated after the design of the project had been completed, in some cases even after projects had been constructed and were in operation. In most of the remaining cases, EIAs were not started until design work was well advanced.

- **Time limitations are a major constraint to EIA quality**

In many cases, it appeared that restricted time was available for the EIA and this constrained significantly the quality of the process. In such cases, the EIA process generally became 'output-driven', with little attention given to working with other stakeholders, including local people, other government departments, or expert groups. In several cases, lack of time appeared to have contributed to the omission of key issues. For example, EIA practitioners responsible for preparing the EIAs for two lodge developments within the Serengeti National Park were given only one day in which to collect field data and conduct field assessments. A number of the deficiencies detected in these statements could be attributed to a lack of time.

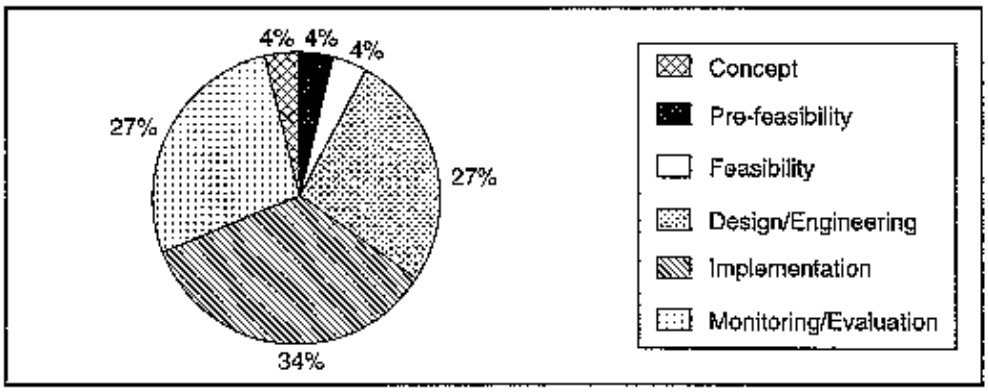
- **EIAs are generally undertaken as 'stand alone' processes**

In all but two cases (ie. over 90%), there was minimal interaction between EIA practitioners and those responsible for designing and implementing the project. In the vast majority of cases, the relationship between proponent and practitioner was restricted to a one-way flow of background information, from proponent to practitioner.

Table 4.3: Levels of environmental assessment applied to projects, compared with levels expected using World Bank screening criteria

Level of assessment	*Actual*		*Expected using World Bank screening guidelines*	
	No. of statements	% of total	No. of statements	% of total
Number of 'full' EIA statements	7	27	17	65
No. of IEEs[2] or pEIAs[3]	19	73	9	35

Figure 4.1: Initiation of EIA in the project cycle



- **EIA expertise is frequently inappropriate to the type of project being assessed**

The composition of EIA teams was questionable in over one third of the EIAs reviewed. Teams frequently lacked expertise crucial to the issues under consideration. Often the imbalance in expertise was reflected in subsequent reporting. For example, the EIA team for a major irrigation project was dominated by biodiversity experts, and lacked social, health and hydrological expertise. Consequently, the EIS focused strongly on 'on site' biodiversity management issues, whilst other issues, for which information would have been crucial to decision-making (eg. impacts on downstream hydrology and water users, potential health impacts), were given less prominence. Expertise in social, health and economic issues were particularly poorly represented in most EIA teams.

- **Foreign expertise dominates the environmental assessment industry in Tanzania**

About 70% of the EIAs were undertaken by international consulting firms. Where these companies used Tanzanian expertise, this was generally only in a supporting role, for example, as translators or research assistants. In 23% of cases, local expertise was completely excluded. EIA training (for Tanzanian nationals) was a component of only one EIA process.

- **Little attention is given to involving local people**

In only 2 EIAs could the level of public involvement be described as being 'meaningful' (see Figure 4.2). In both cases, there was tangible evidence that

[2] IEE – Initial Environment Assessment

[3] pEIA – Preliminary Environmental Impact Assessment

Figure 4.2: Involvement of local people in the EIA process

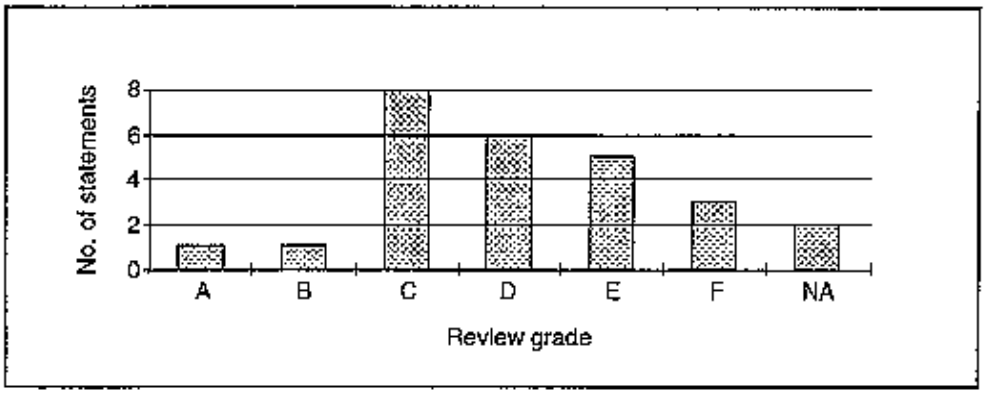
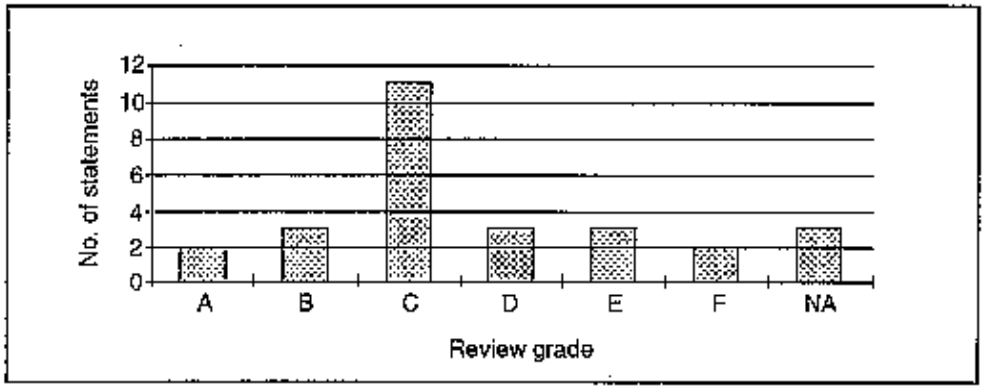


Figure 4.3: Involvement of government agencies in the EIA process



public involvement had improved the quality and value of the EIS for decision-making. In the remaining 90% of EIAs, the involvement of local people was either restricted to extracting information, or was omitted entirely. In these cases, the value of the EISs was often severely curtailed, since the statements said little about local concerns, or how local people would be benefited or impacted. In at least two cases, the absence of local involvement in the environmental assessment process (and in project design in general) had led to severe conflicts between proponents and local people.

- **Little attention is given to involving stakeholder groups other than local people**

Less than 20% of the EIAs adequately involved relevant stakeholder groups other than local people.

4.2.3 The quality of EIS for decision-making

One of the principal roles of EIA is to provide information that can be used to improve decision-making. To perform this role effectively, an EIS should be technically and analytically sound, balanced, and clearly presented. The review identified a number of problems in this regard:

- **EISs tend to be descriptively strong, but analytically weak**

Background information (eg. descriptions of baseline environment conditions and project descriptions) in the statements reviewed was generally of adequate quality (Figure 4.4) and, encouragingly, over 90% of EISs appeared to identify impacts satisfactorily. However, the *analysis* of issues and impacts identified by the EIA study was often very weak. For example, only 40% determined clearly how significant these issues were. Few EIAs considered the costs of environmental management recommendations, and none integrated these into

Figure 4.4: Adequacy of the description of baseline conditions

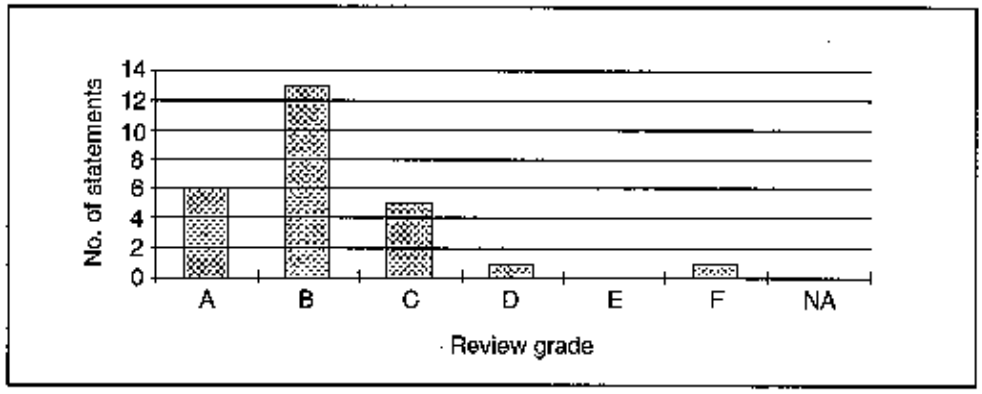
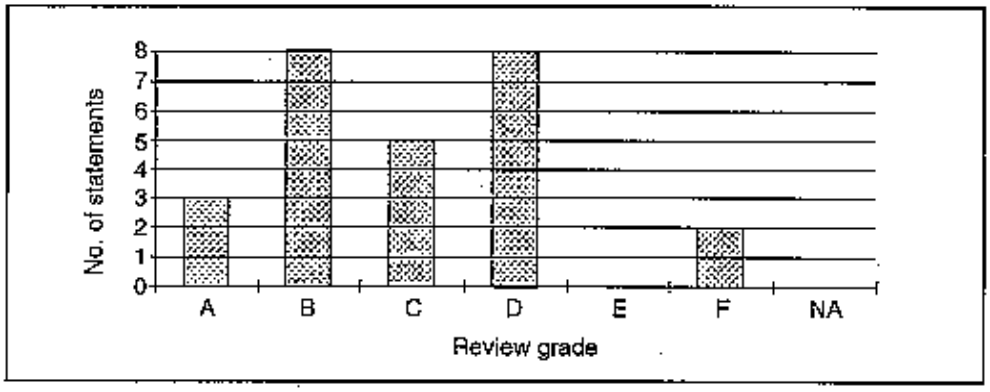


Figure 4.5: Adequacy of the evaluation of impact significance



project budgets. Most EIAs made recommendations for environmental management and monitoring, but these were generally presented in vague and general terms, making compliance monitoring difficult or impossible. Far too many EISs contained large amounts of data which was often irrelevant to the accompanying analysis. This was particularly true for large infrastructure development projects.

- **Key components of many EIAs are weak or missing**

Only half of all EIAs addressed socio-economic and health issues adequately. Only 20% discussed or presented data on financial and economic costs (for example, on environmental management costs), and only one attempted to integrate an environmental economic analysis into the EIS.

- **Most EISs are balanced in nature**

Encouragingly, EISs were generally well balanced, with due attention given to positive and negative impacts. Where bias occurred in presentation, it generally *favoured* the proponent.

In some notable examples cases, the style of presentation of information clearly contributed to a mis-representation of issues (eg. Box 4.4).

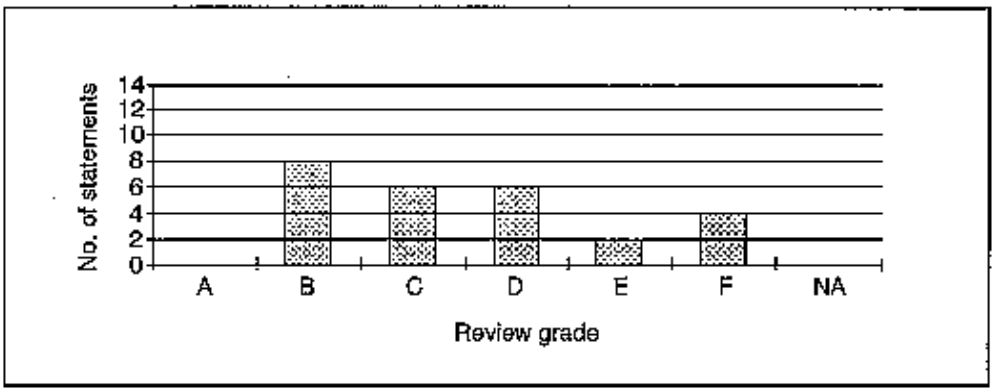
- **Cumulative impacts have not been considered in Tanzania**

To date, no EIAs have considered cumulative impacts even where these subsequently proved to have a direct impact on project performance (see case study 7).

- **Alternative project options were poorly considered**

There were no examples where an EIA led to the substantial redesign of a

Figure 4.6: Adequacy of the treatment of project alternatives



project. Only one third of EISs discussed and assessed alternative sites or approaches to development in a comprehensive manner. The remaining two thirds failed to address alternatives adequately and most failed to mention them (Figure 4.6). In some cases, the terms of reference for the EIA actually specified that alternative options should *not* be considered.

Box 4.4: Bias or balance? The case of an EIS prepared for a prawn-farming project in the Rufiji Delta

Following opposition to a proposal to develop a large-scale shrimp farm in the Rufiji Delta, one of the most productive and ecologically-important wetland systems in East Africa, the proponent commissioned the preparation of an EIS from a US-based aquaculture consultant (Boyd, 1996). The EIS appeared to *justify*, rather than *assess*, the issues associated with the development proposal. The document's sub-title referred to 'An *Ecologically-Responsible* Shrimp Farming Project', giving a message of positive findings from the outset of the presentation. The executive summary concluded by recommending that the project be '*...developed as planned*', thus suggesting that there was no need to implement mitigation or monitoring activities. More subtle techniques were also used throughout the document. For example, impact issues were referred to as *'allegations', 'assertions' or 'exaggerated claims'*. In most cases, these were presented as arguments forwarded by *'environmentalists'*, rather than by the local people and national experts who had actually presented these views. This created the impression that environmental and social concerns were driven by hidden agendas and were, for (unspecified) reasons, 'anti-development'. The selection of photographs in the report included an unusual proportion of 'degraded' or 'denuded' mangrove. No photographs were included of the healthy stands of mangrove which cover much of the delta, or of people using these resources. Because of criticism of the poor quality of the EIS, a second EIA process was subsequently required. Despite a review of this (second) EIA undertaken by NEMC, the government now appears to have approved the project anyway!

Source: adapted from Hughes (1996).

- **Poor presentation of impact statements obscured issues and recommendations**

In only one third of cases were recommendations in EISs sufficiently clear that proponents could reasonably be expected to use them. Less than half of all EISs contained clear and comprehensive executive summaries that provided suitable information for decision-making. Only two statements included a Swahili translation of the executive summary, hence limiting use of the document to English readers only.

- **Compliance issues were often unclear in the statements**

In no cases did the EIS indicate whether the proponent had actually agreed to its findings. Thus, it was generally easy for proponents to avoid complying with recommendations for environmental management. On a second issue critical to quality control, less than 40% of statements included the original terms of reference for the EIA, thus making it impossible to determine practitioner compliance.

4.3 Detailed case studies

4.3.1 Introduction

Detailed case studies of individual EIAs proved to be the most effective means of reviewing and evaluating the performance of the EIA process. In this section we present the results of an analysis of seven case studies, each following the methodology outlined in Chapter 3, and then summarize the key issues and lessons. The seven case studies selected represent *all* projects where EIA were undertaken for projects.

4.3.2 Case Study 1 – teak plantation establishment, Kilombero

Background

The project, now several years into implementation, seeks to establish around 10,000 hectares of private sector teak *(Tectona grandis)* plantations in the Kilombero Valley, within the Kilombero and Ulanga Districts of Morogoro region. Most of the area consists of miombo woodland, although pockets of evergreen forest, and floodplain grassland also occur in the area. The two most significant blocks of evergreen forest lie within two forest reserves (Matundu and Nambinga). There is a healthy world market for teak and a healthy return on investment is expected in the medium- to long-term.

The Commonwealth Development Corporation (CDC) proposed the project following discussions with the Government of Tanzania. CDC is a UK-based, overseas development agency which seeks to promote private sector development. It is supported by funding from the UK-government via the Department for International Development, DFID (formerly the Overseas Development Administration, ODA). To facilitate project implementation, CDC established a Tanzanian company – the Kilombero Valley Timber Company (KVTC) which is now responsible for the implementation of the project. KVTC is wholly owned by CDC.

The potential suitability of the Kilombero Valley for teak, in terms of climate, soils and land availability, was identified by a study mission in 1990. The report of this mission suggested that plantations be located in *'vacant degraded forest lands'* along the margins of the Kilombero floodplains and in the catchment forests on the hills and escarpments flanking the Kilombero Valley. A subsequent mission investigated the technical, financial and economic feasibility of establishing teak plantations on such lands (CDC, 1991). This feasibility mission included a vegetation study based on aerial and satellite image analysis, and concluded that most of the area was free from settlement and that the lowland forests had been:

> '...exploited and degraded by logging, past cultivation and fires.'

The subsequent project proposal included a stated intention to combine *'...environmental conservation with economic development'*. To this end, the proposal recommended that 35,000 ha of land should be leased to the CDC for the establishment of teak plantations, and a further 25,000 ha. should be managed by the CDC according to a 'natural forest management plan'. In addition, negotiations were also held to try to secure rights for CDC to assume management responsibilities for the Matundu Forest Reserve and parts of the Nambinga Forest Reserve, both of which contained areas of evergreen forests considered to be important for biodiversity conservation.

Since support for the project was being sought from the UK ODA, the latter requested and funded a preliminary EIA, in compliance with its own

environmental policies. The EIS (IIED/IRA, 1992) concluded that the project would bring significant commercial and development benefits to Tanzania and noted that the project was broadly welcomed at the national, district and village levels. However, it highlighted a number of potential social and environmental issues (impacts) for which avoidance or mitigation measures were recommended. Whilst there were agreements on some of these issues, divergent positions emerged between the proponents and the EIA team on a number of key points, and these remained unresolved at completion of the pEIA. Therefore, the report cannot be seen as a reflection of consensus between the proponents, practitioners and other stakeholders. The main findings of the pEIA were presented by the (whole) team separately to both CDC in London and to the ODA regional office in Nairobi. The final report was submitted in June 1992. There was no presentation of findings to any official Tanzanian authority.

Key Issues

Key issues of contention at the time the pEIA was undertaken included:

- **The assumption of management responsibility for two forest reserves in the project area**

Two forest reserves consisting largely of evergreen forests were considered especially important for biodiversity. These same areas were considered by CDC to be of considerable potential for teak plantation development. CDC argued that these areas were partially degraded whereas the EIS, whilst acknowledging that some exploitation had occurred, maintained that these areas still supported important ecological functions and retained important biodiversity value, and concluded that these areas should not be encroached upon by teak plantation development.

- **The future management of miombo woodland lying between blocks of plantation teak**

The proponents argued that the project should assume management responsibility for these areas (amounting to around 19,000 hectares). The EIA argued that these should remain outside the project and therefore available for continued village use, and for the expansion of village farming land when needed.

- **The immediate need for a reconnaissance soil survey**

to confirm the suitability of proposed blocks for teak plantations. CDC viewed this as an unnecessary 'condition' and felt that 'selective' survey techniques were more flexible and appropriate.

- **The nature of 'compensation' for village lands leased for teak plantation**

The EIS argued that 'compensation' payments should be paid to villagers for such lands, and further, that the project should place more emphasis on achieving objectives through an outgrower scheme (a relatively minor component of the original proposal), so that villagers could benefit more from the project. CDC argued that consultation exercises undertaken as part of the pEIA were 'premature' and had raised expectations amongst local people. Furthermore, they argued that 'compensation' was an inappropriate means of addressing the issue (see below). The EIA practitioners argued that CDC had already raised expectations, some accurate and some misleading, of the project objectives.

- **The framework for economic analysis**

The EIS recommended that the framework for economic assessment of the

project should incorporate an 'expanded cost benefit analysis' in order to incorporate environmental and social costs and benefits. This was considered particularly important in terms of the environmental sensitivity of components of the project design. The proponents rejected this framework.

The project has now established a social fund as an alternative to the 'compensation' measures recommended in the EIS. Under this arrangement, KVTC has contributed a lump sum, and has undertaken to pay annual, index-linked payments for each hectare leased to the project for teak growing. Payments are made at the village level, and the project has enlisted the help of an NGO (Plan International) to work with local communities to identify priority needs, and disburse funds accordingly.

The EIA process

To some extent the CDC considered that the EIA process had been imposed upon them by their paymasters – the ODA (at least, this was the perception of one key member of CDC staff). Terms of reference were prepared mainly by the EIA practitioners at the request of the ODA, and in consultation with both the CDC and ODA. The pEIA was undertaken jointly by two research institutes – one national (IRA), and the other international (IIED). The environmental assessment mission, with expertise in a broad range of resource management disciplines, visited the project area in January 1992. The visit included:

- meetings and briefings with a wide range of governmental departments (at central, regional and district level), NGOs and experts;
- field visits to most parts of the project area;
- aerial surveys;
- reporting (to CDC and ODA in London, Dar es Salaam and the ODA regional Development Division in Nairobi); and
- village level discussions and meetings.

Discussions were held with CDC administrators in Dar es Salaam before and after the field visit. For most of the one week field visit period, the mission team was accompanied by a technical officer from CDC. However, the team had no 'day-to-day' interaction with senior project design and survey staff of CDC. This factor may have contributed significantly to differences in opinion on a number of important issues between proponents and practitioners (see above).

To some extent, the preliminary EIS examined project alternatives, but only theoretically, in terms of 'with and without' project scenarios, since alternative design details were not available and insufficient resources were available to explore alternative design options further. However, the pEIA did propose some alternative sites for teak plantation development, but only within the existing project area.

Interestingly, despite the joint preparation of clear terms of reference, differences in opinion emerged between the CDC (as project proponents) and the EIA practitioners over the interpretation of these ToR. One senior member of CDC staff argued that the EIA had 'gone beyond' the terms of reference on issues such as economic analysis and public consultation[4]. It was on these

[4] This is of interest, since the terms of reference for this EIA were the clearest and most concise ToR reviewed by this study. Whilst the ToR specifically required that the EIA provided a framework for integrating the costs and benefits of impacts into the investment analysis, and to consult with a wide range of stakeholders (including local communities), it would appear that the proponents felt that the practitioners had 'gone too far' in addressing these issues, in stark contrast to most proponent experience of EIA in Tanzania!

grounds that the proposed economic analysis framework – a key component of the EIA, was 'rejected' by CDC.

Technical aspects of the EIS

On the basis of the IEA review criteria, the EIS for Kilombero is considered one of the best so far prepared for Tanzania. The report is concise, includes a clear summary presented in English and Kiswahili. Whilst the EIS appeared to address all the key issues expected for such a project, the report omitted to include a clear, tabular summary of potential impacts and recommended mitigation measures.

The performance assessment review identified some (relatively minor) areas of deficiency in the statement. For example, CDC have noted misclassification of miombo and evergreen forest stands in certain parts of the project area. Further, the rather non-specific presentation of some of the recommendations for mitigation and monitoring has introduced ambiguity on some key issues. For example, the EIS might usefully have defined the width of a recommended 'buffer zone belt' for one area proposed for teak plantation establishment (in the southern miombo area of Matundu Forest Reserve). This would have clarified issues for the proponent and assisted future compliance auditing initiatives.

However, the performance assessment review indicated that significant underlying problems with EIA relate to the EIA 'process' as a whole, including the perception by one key individual that the EIA had been imposed on the proponents. The failure to reach a consensus as a result of these 'process' issues appears to have had a significant effect on subsequent decision-making and EIS compliance.

The effect of the EIA process on decision-making

The impact of this pEIA on project decision-making has proved difficult to define. In its broadest sense, the view was expressed that the process as a whole contributed significantly to improving the way in which CDC addressed environmental and social concerns. Furthermore, the pEIA was perceived as stimulating an important internal debate within CDC and, in so doing, the process led to a change in the 'culture' of decision-making within the organization. This resulted in more attention being given to development considerations. It is possible that the momentum to establish the social fund was a direct consequence of the pEIA process. The EIS was also regarded as a valuable background document for project staff since it contains an overview of a wide range of issues associated with the project.

Some specific recommendations have been accepted and adhered to by CDC, although, in several cases, it is unclear whether this resulted from the recommendations contained within the EIS, or because they represented logical extensions to the project design, or merely reflected constraints imposed by existing legislation or policy. In direct response to the EIS, site selection has excluded all areas of evergreen vegetation from plantation development. Perhaps less directly, no land or management rights have been secured by CDC for forest reserves, although discussions are continuing on the possibility of teak planting in the southern portion of Matundu Forest Reserve. Components of other monitoring and research recommendations are being undertaken. For example, KVTC has employed a full time research officer who is undertaking a wide range of trials and experiments.

It is clear that those issues on which agreement was not reached at the time the EIS was submitted are by-and-large the same issues that remain outstanding

today. These include some of the most important issues raised in the EIS such as:

- the rejection of the framework for economic analysis of the project;
- the project's assumption of management responsibility for woodland lying between blocks of plantation;
- the absence of mechanisms to support or facilitate continuing public involvement in the project;
- the nature of 'compensation' for village lands leased for teak plantation – for which a more enduring and sustainable solution would appear to have been found; and
- a reconnaissance soil survey of the project area prior to project implementation (although a soil survey focusing on soil structure, rather than nutrient status, was undertaken[5]). It is possible that some plantation development on unsuitable soils has taken place and this has led to poor performance and wasted resources.

In view of the EIS's *'overwhelming conclusion that the project would bring significant commercial and development benefits to Tanzania'*, it must be viewed as a missed opportunity that differences on outstanding specific issues could not be constructively resolved at the time of the EIS, or shortly thereafter. Clearly, innovative and constructive solutions to key issues were possible and might have been found had the dialogue been able to continue in a constructive way. Unfortunately, no mechanisms were available to enable this to happen.

Lessons for EIA policy

The initiation of the EIA process relatively early in the project development cycle did provide an opportunity for significant changes to the project design to be made, and hence to avoid negative environmental and social impacts. The support of the funding agency (in this case the ODA) also exerted a significant, positive influence, by encouraging the proponents to adhere to the recommendations of the EIS.

The establishment of a constructive working relationship between the EIA practitioners and the project proponents from the start of the environmental assessment process is an important ingredient for effective EIA. This did not appear to happen in this case, limiting the potential for constructive dialogue and 'problem-solving'. Thus, lack of trust is likely to have originated from the perception (perhaps limited to a single member of staff of the proponent design team) of the pEIA as 'externally-imposed'. The influential role that the EIA practitioners played in compiling the ToR may have aggravated tensions still further. Constructive engagement is particularly important where regulatory and audit mechanisms are weak or absent (as in Tanzania).

A closer working relationship between the proponent and practitioner might have enabled more constructive design changes to have been made during the pEIA process. For example, the inclusion of an appropriate member of proponent staff (with responsibilities for project design) within the environmental assessment team (this was planned, but did not materialize for

[5] Opinions on the relative importance of soil structure, soil nutrient status, and post-planting management, were divided. Certain project staff expressed the view that the poor performance of certain teak stands was the result of low soil nitrogen. Another view held that a lack of weeding immediately afterplanting, caused by seasonal labour shortages, was the prime reason for problems. Another expressed the view that soil structure (eg. the existence of shallow hard pans, gravel layers, etc.) is a more important consideration than soil nutrient status.

logistical reasons) might have provided an opportunity to improve communication, information-sharing and proponent 'ownership' of the EIA process.

Whilst the project-specific benefits of this environmental assessment process are somewhat unclear and mixed, there is some evidence that the pEIA has had a less direct, though important, effect, stimulating changes in the decision-making culture within CDC.

4.3.3 Case study 2 – pesticides manufacturing, Moshi

Background

Agriculture, the main-stay of Tanzania's economy, generates a considerable domestic demand for pesticides. The Moshi Pesticide Plant was designed to produce 3,000 tonnes of fungicide (copper oxychloride), 4,500 tonnes of organochlorine pesticides and 1,500 tonnes of herbicides annually. Also, the plant has a capacity to produce 1,800 tonnes of hydrochloric acid and an equal amount of caustic soda annually. The pesticide plant is located in an industrial area, 2 km SW of the central part of Moshi town (with about 150,000 residents), about 500 m from sparsely populated areas of the town and about 500 metres from the Karanga River.

Two feasibility studies were undertaken, one by the United Nations Industrial Development Organization (UNIDO), the other by Tanzania Industrial Studies and Consulting Organization (TISCO). Both studies concluded that the project was economically feasible. Plant design and the supply of machinery was then undertaken by an Italian company.

The project was originally conceived as a joint venture between three government-owned companies – the National Chemical Industries (NCI), Tanzania Coffee Marketing Board (TCMB) and the Agricultural and Industrial Supplies Company Ltd. (AISCO). The latter has now withdrawn from the venture.

Four out of 12 products to be produced by the plant are considered to be acutely toxic, highly persistent and extremely harmful to people and the environment. The plant was the first of its size and kind in Tanzania, and attracted the attention of the media and the public, particularly the residents of Moshi town. Local people took the project proponents to court over fear of the health risks.

In response to the public outcry, the Ministry of Trade and Industries appointed an interdisciplinary task force to evaluate the adequacy of the safety, occupational health and environmental protection measures incorporated in the project and to recommend additional and appropriate measures where necessary. Among other things, the task force recommended a comprehensive EIA for the project. This (preliminary) EIA was, therefore, a response to the recommendation by the task force. The National Environment Management Council (NEMC) requested that an EIS be prepared by independent consultants, and a Swedish firm was commissioned to undertake the study.

Key issues

The key environmental and socio-economic issues identified by the pEIA included:

- occupational health issues associated with chemical toxicity of some of the products;
- social and health risks associated with the proximity of the pesticides plant to residential areas;
- potential for groundwater pollution (due to the location of the plant on an important aquifer and a prime catchment for the Pangani River); and
- potential surface water pollution associated with the use of the Karanga River for discharging liquid wastes.

The EIA process

The preliminary EIA was undertaken in 1992, long after plant designs had been decided upon, buildings and infrastructure established, machinery installed and the plant made ready for commissioning. Terms of Reference (ToR) for the EIA were prepared by NEMC, without consultation with other stakeholder groups. Although the EIA team had access to the plant designs and received background information on the project from the plant management, there was no direct interaction between the EIA team and the plant management. Hence, the EIA effectively represented a 'stand alone' process.

There were no indications that the EIA team consulted the public – EIS contained neither the list of local people consulted, nor their views and concerns. Nor was the draft EIS made available for public review. This was particularly surprising in view of the crucial role that the public played in triggering the EIA process. Furthermore, the EIS omitted to describe the expertise used to manage and implement the EIA process. However, it is known that the EIA team did not include Tanzanian expertise.

The final report was submitted to NEMC with copies to the National Chemical Industries authorities and the plant management. No review comments were submitted to the proponents and the project proceeded as originally planned.

The pEIA identified that major risks and severe environmental and health impacts could result from emissions or careless handling of carcinogenic and toxic chemicals, and inadequate waste treatment and/or disposal. The EIS recommended restrictions on the production of a number of chemicals, and recommended that carcinogenic pesticides should *not* be produced at Moshi. It also recommended mitigation measures/monitoring programs and that a comprehensive EIA be undertaken.

Technical aspects of the EIA

Although the Task Force had recommended a comprehensive EIA, what was actually undertaken could only be described as an initial environmental evaluation (IEE). Certain key components, such as descriptions of groundwater recharge patterns and surface water drainage, were not investigated in sufficient depth to assist in decision-making.

Two extremely important omissions were apparent. Firstly, the EIA did not undertake the geo-hydrological study as required by the ToR. This was particularly worrying in view of the potential risks of contaminating the aquifer and the Pangani River system. Secondly, no risk assessment was undertaken or recommended, which was a significant omission in view of the risks associated with the handling of toxic chemicals by staff, and the proximity of the pesticide plant to the residential areas

The effect of the EIA process on decision-making

The EIA has had only a marginal effect on plant design and the project will continue largely as planned. The attitude of the plant's management to the EIA process was somewhat skeptical. They considered the EIS to be a repetition of the work of the earlier task force and re-iterated that adequate environmental mitigation measures were incorporated in the original plant designs. It was also argued that the EIA was too expensive and 'biased against development'. The proponents' intentions remain unchanged – to re-commission all the planned units once they get the opportunity, as per the original designs. Nevertheless, the EIA did help to hasten the establishment of some occupational health infrastructure such as the dispensary.

The EIS recommended that a comprehensive EIA should be undertaken; that training programs for health and safety procedures should be established, and that the plant should include a waste incinerator. None of these measures have been implemented. The main reason advanced for non-compliance was a lack of funds.

Plant managers admitted that the EIA was undertaken 'to assure [local] people that the plant was OK'. From the proponents' perspective, the EIA was a great success, as it placated the public, without needing to make any substantive changes to the location, design and operation of the plant. A recent attempt by the government to approve/support the project re-kindled opposition from local people.

Plans to produce several chemicals (copper oxychlorate, various herbicides and the organochlorines, *aldrin* and *dieldrin)*, have been temporarily shelved for financial reasons, not because of concerns raised in the EIS. The intention to produce these chemicals remains firmly in place.

Lessons for EIA policy

The EIA was undertaken too late to improve project design significantly. Since enormous investment in design and construction had already taken place, there was no potential to consider alternative locations for the plant. Had the EIA been done before decisions were made on siting and design, the social conflicts might have been avoided.

Project planning did not give sufficient attention to national and international pesticide policy issues and experience elsewhere. In this case, the plant was trying to produce pesticides which have been banned elsewhere in the world because of their well-established health and environmental impacts.

The fact that integration between the EIA team and plant management was lacking meant that there was little, if any, sense of ownership of, and respect for, the EIA process and virtually no chance of compliance with any recommendations.

The EIA failed to identify a potential role for the integration of an Environmental Management System into the design, and hence omitted to identify 'win-win' options by which savings could be made whilst also minimising environmental impacts.

The lack of EIA guidelines and legislation contributed to a poor quality and belated EIA process.

4.3.4 Case study 3 – graphite mining, Merelani

Background

The project involved the development of a commercial graphite and tanzanite[6] mining operation and processing plant at Merelani, near Kilimanjaro Airport. Substantial investment was provided by a number of sources, including Graphtan Ltd. and partner companies in Tanzania, credit banks and the multilateral African Development Bank. Prior to development, the project area consisted of dry miombo bushland and dry savanna scrubland. Much of the project area had already been extensively disturbed by unregulated activities of artisanal gem mining operations. These ongoing activities currently employ (directly or indirectly) around 25,000 workers. Characteristic of many such artisanal mining operations worldwide, safety standards in these areas were (and still are) extremely poor. Fatalities and serious injuries are commonplace.

As part of an attempt to introduce better regulations, the Government of Tanzania divided the mineral-rich area into four blocks (A to D), and allocated Blocks B and D to small-scale mine operators for the extraction of the semi-precious gem – tanzanite. Block C, which contained a rich seam of graphite, but which is located between Blocks B and D, was allocated to Graphtan Ltd., a subsidiary of a British holding company. Artisanal mining for tanzanite continues intensively in blocks B and D.

Mining operations for graphite commenced at Block C in 1994 when the processing plant became operational. There is also a unit for the recovery of tanzanite and this is likely to contribute an important component of the income from the project.

The commercial mining process in Block C involves the blasting and removal of graphite ore to the processing plant, rock crushing and graphite extraction. Physical extraction activities generate large quantities of spoil, and result in the emission of considerable quantities of dust and noise. Spoil is currently being dumped on leased land adjacent to the processing plant, but new measures for disposal will have to be found as the amount of spoil accumulates with operation of the plant. Processed tailings are pumped into bunded (unsealed) settling tanks, and a small component of the liquid content (mainly water but also containing industrial solvents, bubbling agents and detergents) is recycled for re-use in processing activities. The remaining water is lost through evaporation and groundwater infiltration.

Severe conflicts have emerged between the artisanal mine operators in adjacent concessions, and the commercial operators of Block C. These conflicts have involved periodic incursions and 'invasions' of the commercial concessions by aggrieved artisanal miners seeking to establish tanzanite mining claims in commercially-leased concessions. Physical clashes between security staff and artisanal miners have occurred on a number of occasions. These have resulted in injuries and, in extreme cases, in the shooting and killing of artisanal mine operators by security staff employed by the commercial mine operator. Graphtan Ltd. argues that these conflicts have emerged because small-scale operators have illegally entered, threatened and intimidated its staff, and firearms have been used only in extreme cases where drastic self-defence measures were required.

Graphtan also argued that these conflicts were exacerbated by the lack of support from the police. The Company officials stated that this placed Graphtan in the uncomfortable situation of having to rely heavily on its own

[6] Tanzanite is a gemstone found mainly in Tanzania

security arrangements in order to secure its legal rights to mine and process the mineral resources of Block C. Since commercial mining activities have been legally licensed by the government of Tanzania, Graphtan Ltd. argued that they are operating completely within national law, and incursions into their project area are illegal. Nonetheless, the conflict has resulted in the loss of human life, and high recurrent costs required for security. Perhaps not surprisingly, there is little constructive dialogue between the commercial and artisanal mine operators.

The EIA process

The environmental assessment process started formally with the feasibility study which included a brief discussion of environmental issues. However, the African Development Bank's (AfDB) own financing requirements obliged the company to prepare a more adequate and comprehensive environmental impact statement. The AfDB prepared terms of reference for the EIA (although these were far from comprehensive) and the company sub-contracted the study to a unit of the engineering faculty of the University of Dar es Salaam. However, this took place after the design of the plant and mining operation had been finalised.

The environmental impact study was undertaken principally as a 'stand-alone' exercise, and involved a brief site visit (two days), followed by report preparation and reporting. The proponents provided the background information required for the consultants to prepare the EIS, but there was no further integration between the EIA process and project design. The EIS was reviewed by a mission from the AfDB which visited the site and discussed issues with the EIA team. Their principal concern was the danger of groundwater contamination caused by infiltration from the unsealed tanks used to hold washings water.

The EIS focused tightly on the design prepared during the feasibility study, and did not explore alternative options for design, plant siting, and mine waste disposal plans. The EIS refers briefly to a visit of the consultants to two local villages but makes no reference to the questions and issues discussed, nor to the amount of design information provided to villagers. It is not clear to what extent those consulted were aware of the objectives of the EIA process, or the scale or design details of the proposed project. No references were made to the views expressed by the local communities involved, nor to the influence of those views in shaping the content of the EIS (or their influence on project design, which is assumed to be none). The report concluded that the 'socio-economic effects for Tanzania and the region will be mostly positive.'

There was no economic analysis of the project, and only minimal analysis of social and health impact issues. Nonetheless, the EIS included a number of recommendations for the mitigation and monitoring of impacts predicted for the project, although cost estimations for these recommendations were not prepared.

The EIS concluded that the project "*...does not pose any serious threat to the natural environment and will not adversely effect the existing social fabric in the area.*" Further, the document states that the proponents must "*...continue to develop and sustain its already good working relationship with the local people*".

There appears to have been no formal review process, either by external agencies or by proponent staff. The EIS was accepted by the African Development Bank and the financing arrangements were subsequently finalized and approved, allowing the project to proceed.

Technical aspects of the EIA

The EIS predicted that the project would create some environmental and socio-economic impacts as a result of the release of dust, the drainage of processing water into groundwater and the creation of some 'harmful working conditions'. Nonetheless, the authors of the report expressed the view that the project would provide socio-economic benefits for Tanzania and the region, through the payment of taxes and royalties, employment and improved communication.

Importantly, the EIS omitted a number of key issues associated with the construction and operation of the Graphtan works. As a consequence, it was seriously flawed – a view shared by staff of the operating company. Key issues overlooked included:

- the storage and disposal of spoil;
- the likelihood of severe social conflicts between the plant operators of Block C (Graphtan Ltd.) and the artisanal mine operators in adjacent Blocks;
- the possibility of groundwater contamination by infiltration of chemical-rich water from unsealed storage tanks (after its use in the separation of graphite from ore);
- the disposal of water accumulating in the extraction pit (which could potentially contain high levels of contaminants);
- restoration of the project area and the decommissioning of the processing plant; and
- evaluation of the full costs (and benefits) of the project in economic terms. The failure to address this issue resulted in the effective externalization of a number of important environmental costs. Examples include an irreversible loss of grazing and other natural resources (in this case exacerbated by problems of spoil and tailings disposal which will now require considerable land-take), the cost of decommissioning the processing plant, and possible groundwater contamination.

The effect of the EIA process on decision-making

From the proponent's perspective, the EIS had the important effect of meeting the African Development Bank's requirements to release financing. In this respect alone, the EIA process at Mereland influenced decision-making. Graphtan also expressed the view that the EIS provided an important public relations tool. In a more general sense, the EIS would appear to have had no impact whatsoever on the siting, design and operation of the project – a point openly conceded by Graphtan. Indeed, key Graphtan staff had either not read the EIA report, or were largely unaware of its findings and recommendations. The poor technical quality of the report was cited as one reason why the report effectively had been ignored by the staff. Some of them were aware that the EIS had omitted to address a number of key environmental issues.

Some of the mitigation and monitoring recommendations in the EIS have been implemented by the project proponents (eg. as the supply of water to a nearby cattle trough). However, several have not been implemented at all, and no funds have been set aside for implementation of the mitigation and monitoring plan set-out in the EIS. Given that the EIA failed to address a number of key environmental issues, it is perhaps not surprising that the EIS omitted to include mitigation and monitoring recommendations.

The proponents also pointed-out that there was no legal obligation to implement the mitigation and monitoring recommendations in the EIS. Voluntary

compliance with these recommendations would have incurred short-term costs additional to operational costs, but Graphtan did not think these were justified. If the EIS had included recommendations on issues such as site restoration and decommissioning, it is likely that these would have been considered as economically unacceptable by the proponents. Graphtan indicated that it would have sought compliance exemptions from the government if the EIA had resulted in obligations to restore the excavation site (such as by backfilling with tailings and spoil) or to decommission the processing plant. It is likely therefore, that site restoration and plant decommissioning will not take place when graphite and tanzanite have been mined-out.

Lessons for EIA policy

Many of the environmental and social problems resulting from the implementation of this project relate to policy weaknesses at the government level. Nonetheless, the EIA was a lost opportunity to predict the nature and scale of these issues, and to mediate between the different stakeholder groups involved. Key lessons to emerge from this case study are as follows:

- the proponents viewed the EIA as having a short-term aim – to facilitate project financing from the African Development Bank, and this constrained the development of a longer term commitment to environmental management at the project site;
- the absence of coherent environmental legislation to ensure EIA compliance severely reduced the potential of the EIA to improve the environmental performance of the mining operation;
- the late stage of introduction of EIA left little scope to explore alternative design options;
- the ambiguity of environmental management recommendations such that the EIS provided ample opportunity for the proponents to implement a 'less-than-rigorous' approach to compliance;
- the failure of the EIA to identify critical social issues, and to integrate these into the design of the project, is likely to have contributed to the scale and intensity of social conflicts that have emerged since the mine started operating. These have resulted in the loss of human life and higher recurrent costs for the mine operator;
- there was a failure to utilize the EIA process as an opportunity to explore solutions to potential social conflicts and develop dialogue between the different stakeholder groups involved, particularly artisanal miners, pastoral communities, government agencies and the project proponent;
- the absence of quality control mechanisms for the selection of EIA consultants; and,
- the absence of a comprehensive cost-benefit analysis as a part of the EIA process has resulted in the externalization of important environmental and social costs, which will eventually have to be met by the government and the people of the region.
- the apparent indifference of the funding agency (in this case, the African Development Bank) , such that this agency accepted a flawed EIS without any apparent review process.

This case study also underscores the point that serious problems can arise when: there is no coherent EIA legislation; there is a lack of compliance monitoring; and the designs of major development projects are finalized before an EIA or social appraisal is undertaken.

4.3.5 Case Study 4 – hydropower redevelopment, Pangani Falls

Background

The original concept of this project was to re-develop the hydroelectric power station built at Hale in 1935 on the lower Pangani River in Korogwe District, Tanga Region, Northern Tanzania. The re-development was considered necessary because the original generating facility was operating at under half of its normal generating capacity of 20 MW, mainly due to reduced water head following reservoir siltation. However, redevelopment of the original generating facility was deemed "too expensive" and so plans were formulated to develop another hydropower generating facility at nearby Pangani Falls.

The new project, designed to enhance capacity to around 66 MW, was implemented by the Tanzania Electric Supply Company (TANESCO). According to Tanzania's energy policy, the development of Pangani Falls hydropower station was the most viable and cost-effective means of enhancing energy generation available in the country.

An initial scoping exercise by two international consulting companies produced a preliminary EIA statement in 1989. This was followed by separate studies on biodiversity, environment and socio-economics between 1989 and 1994. Construction took place concurrently between 1991 and 1995. The project was financed with substantial contributions from Norway, Finland and Sweden. The final EIA document published in 1994 (only one year before the construction was completed) represented a consolidation of these separate studies.

The EIA focused tightly on the immediate impact area – the project site, a village and the adjoining stretch of the river as far upstream as the headrace and downstream for a kilometre or so beyond the tailrace. According to the EIS, the main environmental, social and health issues were:

- aquatic weed infestation – the EIS noted that water hyacinth (*Eichornia crassipes)* had extensively colonized the Pangani River, and was likely to infest the new reservoir;
- soil and water contamination resulting from construction activities and the discharge of slurry and chemicals;
- socio-economic and health impacts, particularly those resulting from the impounding of a new water body and the creation of habitat conditions suitable for vectors of diseases such as malaria and bilharzia; and
- alteration of the river regime between the falls and the tailrace canal and its consequential impact on the riparian ecology and the maintenance of a residual flow in the old channel.

By focusing the EIA on direct impacts at the project site, the EIA failed to predict a number of important environmental and social issues that later proved to undermine the performance of the project as a whole. The most notable omission was that of cumulative water extraction in the catchment upstream of the dam site. Catchment management as whole was also not addressed in this EIA.

The EIS recommended some mitigation measures such as improved management of wastes, release of compensation water flow in the old river channel, transplantation of a threatened plant species – the African Violet (*Saintpaulia sp.)*, biochemical eradication of water hyacinth and protection of the riparian forest.

The EIA process

Terms of reference for the main EIA study were prepared by the consortium of bilateral agencies funding the project and the EIA was undertaken by an international consulting engineering company. Since it was initiated after the design of the project had been completed, the EIA was left with limited scope to influence the way in which the project was designed.

The EIA process was fragmented in nature. Whilst the preliminary study was undertaken in 1989, a two year gap ensued before supplementary studies were undertaken. Most of the supplementary studies were not completed until shortly before the completion of construction work in 1995. Thus, the EIS actually comprised of a "belated synthesis" of separate studies.

Another problem was that the EIA did not address cumulative water abstraction and land use issues in the catchment area. Hence, it failed to identify the water shortages that have forced the power station to operate at performance levels below those originally anticipated. Not only did this result in poorer than anticipated performance of the facility (and thus poorer economic performance), but also measures were hastily introduced to address these shortages. For example, water pricing was introduced within the Pangani catchment, and this led to conflicts with the people of the river basin. These might have been avoided had the measures been identified, planned and implemented in a more sensitive and participatory manner.

Efforts to involve local people in the EIA were confined to interviews with local government leaders (mainly village leaders) and local people within the immediate impact area (mainly Bwitini Village). The results of these interviews were not documented and it is unclear whether the views expressed by local people had any substantive influence on the findings presented in the EIS or on the subsequent design of the project. No involvement of people living upstream or downstream of the direct impact area was sought.

Technical aspects of the EIS

- the style of presentation of the EIS made it very difficult for decision-makers and lay readers to gain an adequate understanding of the main issues;
- the executive summary was far too brief to provide adequate coverage of key issues and potential impacts, and created the impression that there were relatively few issues of concern;
- the EIS presented an insufficient level of detail on some key issues, particularly those regarding potential water use conflicts in the basin, land use implications in the catchment area and the level of stakeholder involvement in the EIA process. No environmental management costs were estimated, nor was a mitigation plan presented; and
- the EIS included large amounts of background and baseline data, much of which was irrelevant to impact analysis. The EIS was particularly weak on evaluation of significant impacts, leaving decision-makers with an unclear picture about the critical issues.

The effect of the EIA on decision-making

The EIA had no significant influence on the design and implementation of the project. With minor exceptions, translocation of African violet has largely failed. Biological eradication of water hyacinth was abandoned soon after project commissioning. Mechanical removal of water hyacinth was introduced to replace biological control but has also proved ineffective. The late stage at

which the EIA process was commissioned and the lack of integration of EIA with project design were clearly the reasons for such poor performance. Technical weaknesses in the EIS (described above), and it's fragmented and non-integrated presentation, further contributed to its lack of influence.

At the project site, however, the EIA is thought to have improved some aspects of environmental management and design, such as:

- maintaining communication between two villages on opposite sides of the river by making recommendations (which were implemented) to raise the height of the bridge joining the villages;
- reducing impacts on the riparian ecology of the old river course by ensuring periodic releases of water into the old river course; and,
- ensuring that compensation was paid to two households in the direct impact area.

Lessons for EIA policy

The late commissioning of the EIA relative to project implementation effectively meant that the EIA became a "rubber-stamping" exercise with little potential to effect the fundamentals of project design. This constraint was compounded by the disjointed nature of EIA activities and the poor integration of the EIA with project design and management activities. Furthermore, the EIA process was effectively terminated on submission of the EIS, and there has been little, if any, subsequent monitoring and follow-up activities. The lessons are clear – for an EIA process to be effective, it must be *initiated early*, it should be well *integrated* with project design and management, and it should be planned to *continue beyond the completion of the construction phase.*

This case study clearly illustrates the problems that can arise in the absence of effective and adequate *scoping*. Two issues that later proved crucial to the impact of the EIA process on project design could have been flagged at this early stage. Firstly, the importance of addressing basinwide issues in the EIS. Failure to do this led to a failure to identify likely water shortages – and this resulted in project underperformance. Secondly, the importance of effectively involving water user groups in the basin. The fact that these issues were not addressed early contributed to conflicts associated with the belated (and non-participatory) introduction of water pricing. Greater investment in scoping could well have led to a more cost-effective and better targeted environmental assessment process.

The absence of a *review process* in Tanzania, meant that many of the technical deficiencies of the EIA were not identified or rectified (e.g. the inadequacy of mitigation and monitoring measures, the failure to address basinwide issues).

Provisions for mitigation and monitoring were wholly inadequate. There was little evidence to suggest that proposals for monitoring and mitigation were costed or integrated into project design. Nor were responsibilities for monitoring and mitigation clearly assigned, thus making compliance monitoring extremely difficult.

Finally, the case study illustrates the need for greater rigour in donor practice on EIA.

4.3.6 Case Study 5 – oil pipeline protection, Mikumi National Park

Background

In 1968 the Tanzania-Zambia (TAZAMA) Pipeline Company Ltd. commissioned an underground pipeline to transport petroleum from Dar es Salaam to Ndola in land-locked Zambia. The pipeline has a total length of 1,704 km of which 60 km lie within Mikumi National Park in Tanzania. No EIA was undertaken at the time. Since its construction, the pipeline has been gradually corroding as a result of chemical reactions between the metallic pipe and the soil. Corrosion is reported to be especially severe within the park and has led to oil leakage which threatens the park environment.

In 1993, TAZAMA decided to address this problem and proposed the construction of five Cathodic Protection Stations (four solar stations and one transformer rectifier unit station) along the length of the pipeline within Mikumi National Park. These would generate an electric current along the length of the pipeline, which would then help to slow the corrosion process. Since the pipeline was routed adjacent to a public highway running through the middle of the park, each station was to be located within 20-30 metres of the road. An EIA was commissioned prior to construction of the stations in accordance with Tanzania National Parks (TANAPA) policy.

Key issues

The pEIA identified a number of environmental issues associated with the proposals:

- visual impacts resulting from the construction of the buildings to house the power generation equipment;
- disturbance of wildlife associated with construction and decommissioning activities;
- potential impacts arising from the extraction of construction materials from within the park;
- potential environmental impacts that would arise if new permanent settlements were to be established in the park to provide security for the new CPS structures.

The EIA process

The EIA was undertaken after completion of feasibility and design studies, but before construction of the stations started. It was carried out by two specialists from the Institute of Resource Assessment of the University of Dar es Salaam. Due to time constraints, very little scoping was undertaken.

Stakeholder involvement was confined to Mikumi National Park authorities in Mikumi and TAZAMA Pipeline Ltd. in Dar es Salaam. Other vital stakeholder groups like tourists, tour operators and national environmental agencies were not involved.

The EIA team spent two days in the field with the TAZAMA design engineer assessing the alternative cathodic protection options. However, no changes on the designs were made since firm decisions had already been taken. Although there was interaction between the EIA team and the designers, the two days of field work was probably not enough. The draft EIS was submitted to TAZAMA and TANAPA. The latter sent back a few comments to the EIA team which led to a minor change in the location of one of the power huts. But there was no official approval of the EIS.

TANAPA was only involved to a marginal extent – the EIA team conducted one interview with the chief warden of the National Park.

The main 'message' of the EIA was that, whilst wildlife disturbance within the park could be minimized, there was less scope for mitigating the visual impacts of the cathodic protection stations.

Technical aspects of the EIS

The EIS reported several environmental impacts and recommended mitigation measures. However, the report did not include the ToR, nor the views and concerns of stakeholders.

The EIS did not cost the mitigation measures, nor was there any indication to suggest that TAZAMA was committed to mitigation compliance.

The effect of the EIA process on decision-making

Apart from a minor relocation of one of the power huts, the EIA had no effect on the design of the cathodic stations.

The EIA did help to resolve a long-standing conflict between TAZAMA and TANAPA Authorities about the relevance of establishing the CPS in the national park, and allowed the project to proceed. Indeed, the EIA helped convince TANAPA that the project, by reducing pollution risks, would be beneficial to the park as a whole. In this case, TANAPA needed to make a trade-off between the inherent pollution risks associated with an existing pipeline undergoing gradual corrosion, and the (mainly visual) impacts associated with the construction on new CPS stations.

Lessons for the EIA policy

EIA should be commissioned early in the project cycle in order to improve flexibility in designing projects and in decision-making. In this case, the late stage at which the EIA was commissioned left little if any scope to alter the design or location of the cathodic protection stations.

4.3.7 Case Study 6 – tourist development (Serengeti-Serena), Serengeti National Park

Background

The Serengeti National Park is one of the most important areas for wildlife conservation in the world, and the wildlife attractions of the park are drawing ever larger numbers of tourists to Tanzania. In response to increasing visitor demand, a private hotel company – Serena Hotels and Lodges, proposed the establishment of a 200 bed lodge, on a hill top location, within an Extensive Use Zone[7] in the central part of the Serengeti National Park. The company has a long history of establishing lodges within the national parks of East Africa. The Tanzanian National Parks Authority (TANAPA) requested the preparation of an EIS for the proposed development in line with national park policy. This was prepared by a team from the Institute of Resource Assessment, University of Dar es Salaam.

The EIA study identified a number of potential (some unavoidable) environmental impacts associated with the proposed development, and proposed recommendations for avoidance and mitigation. Key issues and recommendations included:

- prompt re-vegetation to mitigate soil erosion during site clearing and construction;
- a specific warning that care would be needed to avoid discharges of liquid wastes reaching a nearby wetland, and that adequate waste disposal measures should be included in the project design.
- spoil should be disposed outside the park;
- raw materials such as sand, aggregate and roofing thatch should be purchased from villages around the park to minimise impacts within the national park and to provide income generating opportunities for villagers around the park boundary;
- a proposed incinerator should be sited downwind of staff and visitor facilities to avoid health impacts from air pollution; and
- a variety of mitigation measures were recommended for visual and noise impacts (key considerations for the national park) for which, including careful selection of colours, and the sound-proofing of generator housing.

The EIA process

The EIA study, commissioned by TANAPA, was undertaken at short notice. Detailed project designs had already been prepared by the time the EIA work had started and severe time restraints were imposed on the EIA team in order to minimise delays in the implementation of the project. The EIA study was undertaken over only 21 days, and only one day was available for a site visit. These conditions placed significant constraints on the scope and depth of the EIA study. For example, there was insufficient time to visit areas immediately adjacent to the park from which aggregates and stone were extracted for construction and road-building. Nor was time available to visit settlements in these areas to explore local considerations. Nonetheless, the EIA team had the support of both the project proponents and TANAPA. Presentations on the

[7] Extensive use zones are where management for wildlife and the natural environment take precedence over development whilst accommodating the requirements of non-consumptive use.

design of the project and the concerns of TANAPA were made immediately before the field assessment phase of the EIA study. Field assessment consisted of a brief (half day) site visit and discussions with project staff. This was followed by report preparation and submission. No comments were received by the EIA team on the quality or acceptability of the EIS, and project implementation commenced shortly after its submission.

To some extent, this development provides a rare example of an EIA process continuing after the submission of the EIS – the latter provided a framework for negotiations between the proponent and regulator (TANAPA). In a sense, the EIS provided an agreed statement of 'rules' which continue to form the basis of what is a constructive dialogue between the park authorities and the proponent. Hence the 'problem' associated with liquid waste disposal is being addressed with the constructive support of the park authorities, and is unlikely to become an issue of contention as long as efforts at finding a workable solution continue to take place.

Technical aspects of the EIS

If considered as the product of a *preliminary* EIA, the EIS presented a clear summary of the main issues involved – a considerable achievement in view of the lack of notice and the shortage of time imposed on the process. Consideration of a number of additional issues could have improved the quality of the EIS:

- in view of the importance of visual impacts on the park, the establishment of a framework for photographic monitoring would have provided the park authorities (TANAPA) with a useful monitoring tool;
- recommendations for mitigation were insufficiently specific to be of practical use. For example, recommendations regarding the avoidance of pollution of a nearby wetland system should have been supported by specific recommendations to undertake baseline water quality studies of this natural wetland system. Since this data has not been collected, it will be difficult to establish whether effluent discharges from the lodge are impacting on the system to any significant effect. The EIS did not specify who should undertake several of the key mitigation and monitoring activities, even though their implementation would require inputs from the national park and the project proponents. Furthermore, recommendations for mitigation and monitoring were not costed; and
- there was no assessment of the views and concerns of villagers living outside the park. This was an important omission, since materials for construction (such as stone and aggregates) were extracted from village lands immediately adjacent to the park.

The effect of the EIA process on decision-making

The principal difficulty in determining the influence of the EIA on this project lies in distinguishing between the impact of the EIS and the proponent's existing and constructive attitude to environmental management[8]. Furthermore, influence exerted by TANAPA over development proposals adds a regulatory dimension to EIA in parks that is absent in the rest of Tanzania. The EIS *per se* appears to have had a minimal direct effect on decision-making at the site. Since designs had been completed prior to the EIA, there was little scope for making alterations to the lodge design, or considering alternative

[8] Serena lodges are unusual in Tanzania in that they have developed their own 'Corporate Environmental Mission Statement'.

designs or locations for the enterprise. For example, the proposed hill-top location of the development in one of the most frequently used areas for wildlife viewing, meant that the issue of visual intrusion was a key consideration. The most effective means of reducing visual intrusion, without significantly impairing the viewscape offered by the lodge, would have been to relocate the development just below the skyline. Recommendations for design modifications, even to this modest extent, were not considered acceptable by the lodge company on the grounds that the project design had already been completed (ie. that the EIA study was only at liberty to make suggestions on the *detail* of the project design). This was surprising in view of the international significance and sensitivity of the Serengeti National Park.

In terms of the day-to-day operation of the lodge, the EIS had minimal impact, even though the proponent's environmental management practices were, on the whole, extremely good. Although the lodge manager had 'glanced' at the EIS, he was not aware of its detail, and therefore it was not surprising that the operational measures that were being followed were not necessarily those recommended in the EIS. In most cases, the lodge's operational practices (which placed a high premium on clean and environmentally-friendly management practices) were compatible with, but not directly influenced by, the EIS. However, the proponents did comply with a number of key recommendations of the EIS, such as the procurement of raw materials from villages outside the national park.[9]

One of the key recommendations of the EIS – the integration of adequate liquid waste treatment facilities into project design – had clearly not been implemented, and the lodge was facing a considerable problem in dealing with the disposal of such wastes. At the time of the evaluation visit, waste water overflowing from inadequate waste pits had created a new wetland microhabitat.

Lessons for EIA policy

The initiation of the EIA process so late in the development of the project negated any realistic chance of significantly improving project design. This resulted in increased costs for the proponent – it now has to address costly environmental problems, and has led to tension between TANAPA and the proponent over compliance. The message is clear – for EIA to be effective, it should commence as early as possible in the project development process.

As a consequence of the belated commissioning of EIA studies for this development, extremely severe time restrictions were imposed on the EIA. This contributed to the omission of a number of key issues which have caused problems at later stages of the development and management of this project.

The national parks provide a context in which EIA is supported by regulatory controls. In this example, the regulatory authority wielded by TANAPA was instrumental in ensuring that the project was subjected to EIA. It may also have played a major part in encouraging the proponent to adopt a more environmentally sensitive approach to development than might have otherwise been the case. In any event, the EIA now provides a useful framework for constructive discussions on environmental issues associated with the development. This relationship between TANAPA (as regulators) and the proponent is likely to yield benefits to both stakeholders over the medium to long term. This suggests that if regulatory powers did exist outside the parks

[9] This condition is consistent with national park policy and would have been imposed on the proponents irrespective of the findings of an EIA.

(eg. for the country as a whole), they might go some way to forging a more responsible approach to environmental management by the private and public sector alike. Furthermore, on the limited evidence of this case study, EIA might contribute to forging a constructive, rather than confrontational, relationship between government and private sector on environmental issues.

Integrating environmental management recommendations into the general management plan of the national park would improve long-term compliance monitoring by TANAPA.

4.3.8 Case Study 7: tourist development (Grumeti), Serengeti National Park

Background

Recently, there has been much investment activity in the development of tourist facilities in the so called 'northern Circuit' of national parks and protected areas, which includes the Serengeti National Park. One such example is the Grumeti Serena Tented Camp, constructed in 1995/96 by Serena Hotels and Lodges Limited. The location was selected because of its qualities as a vantage point to observe the migration of large herbivores through the Ndabaka Plains and the Grumeti River Basin. The proponent has considerable experience of tourism development in East African National Parks.

The Camp is located approximately 90 km from Park headquarters at Seronera, within the Kirawira Extensive Use Zone of the National Park. The Serengeti National Park is a Biosphere Reserve and a World Heritage Site. The Extensive Use Zone around Kirawira is one of the least developed in the park. In accordance with TANAPA policy, an EIA was commissioned before final approval for construction was given. TANAPA commissioned the Institute of Resource Assessment (IRA) of the University of Dar es Salaam to undertake the EIA. It was funded by the proponent.

Key issues

The EIA identified the following potential problems:

- visual impacts and noise;
- impacts associated with the extraction and transport of construction materials;
- waste disposal and the associated health and environmental implications;
- the social, health and environmental implications of siting the generator and incinerator close to staff and visitor accommodation; and
- risks associated with opening up and exposing a previously remote area of the national park to increased illegal activities, including poaching.

The EIA process

The EIA took place long after feasibility studies and project designs had been completed, but before formal approval of the project by TANAPA had been given. The EIA team was supposed to work in close collaboration with the proponents and TANAPA. However, time constraints meant that dialogue between these stakeholder groups was minimal, and was restricted to the one day site visit. The team felt they were placed under considerable pressure to prepare and submit the EIS in less than 20 days. As in the previous case study, the lack of adequate time severely constrained the scope and depth of the EIA study. Areas outside the park, from where aggregates and construction materials were taken, were not visited. Nor was time available to visit local settlements in these areas to explore and consider local views and needs.

The original design incorporated a number of features that substantially reduced the environmental impact of the camp. The EIS recommended a number of measures that could enhance environmental performance still further. These included:

- the purchase of sand and aggregates from outside park boundaries, to be negotiated through village governments. The EIS further recommended

that the restoration of borrow pits should be negotiated with village representatives;

- the siting of the incinerator so as to avoid health impacts on staff and residents;
- the proper screening of project labourers so as to minimize poaching;
- the testing and monitoring of liquid waste treatment facilities; and the compilation of contingency plans to deal with accidental spills; and
- the reduction of visual and noise impacts through colour selection of construction materials of appropriate colours, and through the use of noise abatement measures.

Technical aspects of the EIA

- the EIS failed adequately to address issues concerned with the site of the camp. This led to avoidable and yet important impacts. For example, the tents are highly visible from the main track through the park as they were sited too close to the crest of the hill to avoid breaking the skyline. This has reduced the wilderness value of the area;
- the EIA team did not consult the villagers and/or local authorities outside the national park to gauge their views and concerns about the purchase of construction materials from their villages;
- the EIA omitted to present an impact mitigation plan/monitoring program. Hence, the allocation of environmental management activities between stakeholders was unclear and ambiguous, making follow-up and compliance rather difficult; and
- despite the above shortcomings, the EIS provided a framework for environmental monitoring by TANAPA, thus ensuring compliance to mitigation by the proponent.

The effect on decision-making

The effect of the EIA on project planning and implementation was marginal, mainly due to the late stage at which the EIA was initiated. Design and siting issues had already been decided prior to the EIA, so there was little scope for the EIA significantly to address alternative options and influence improved environmental performance. Compliance with recommendations was also poor. For example, the proponents did not heed recommendations to purchase construction materials from nearby villages.

Lessons for EIA policy

The late stage at which the EIA was initiated, and the inadequacy of resources (particularly available time) clearly constrained the quality and utility of this EIA process. This resulted in impacts that could and should have been avoided and/or mitigated.

Despite obvious problems associated with the late initiation of the EIA, the process did provide a framework for subsequent negotiation between TANAPA and the proponents which has helped to improve subsequent environmental management associated with the project;

Consistency in ensuring adherence to environmental management recommendations could be greatly improved by ensuring that the recommendations of each EIA undertaken within the park (ideally in the form of an environmental management plan) are integrated formally into the General Management Plan (GMP). This lesson applies equally to all EIAs undertaken within national parks and protected areas in Tanzania.

4.4 Case study analysis

4.4.1 Introduction

The analysis in this section focuses on three aspects of EIA practice highlighted by the case studies. These three aspects are introduced below:

i) **Interaction between the EIA team and the project design process;**
Close integration between the EIA and project design processes is an essential ingredient of effective EIA. Perhaps surprisingly, rather little attention is given in the EIA 'best practice' literature to emphasizing the importance of developing close working relationships between EIA practitioners and project design teams. Ensuring that EIA teams work closely with project design staff offers an important opportunity to enable and encourage project proponents to take on board environmental and social considerations. This is especially true in Tanzania, where EIA regulatory frameworks are weak and cover only certain sectors (see Chapter 2), and where capacity to implement recommendations for mitigation and environmental management is often severely constrained.

ii) **Timing and duration of the EIA process;**
EIA processes worldwide often start too late, finish too early, or lack the resources necessary to ensure they are effective. Initiating the EIA early in project development is one of the most important ingredients for effective EIA. Bearing these factors in mind, the case studies explored the stage at which the EIA process was initiated in the project development process, and the resources devoted to them.

iii) **Stakeholder and public involvement;**
Care needs to be taken in distinguishing between 'stakeholder' participation and 'public' participation. The second is a subset of the first. Howlett and Nagu (1997) define stakeholders as '*all those people and institutions who have an interest in the successful design, implementation and sustainability of the project. This includes those positively and negatively affected by the project. Stakeholder participation involves processes whereby all those with a stake in the outcome of a project, actively participate in decisions on planning and management. They share information and knowledge, and may contribute to the project, so as to enhance the success of the project and hence ultimately their own interests.*'

A component of 'stakeholder' involvement is 'public' involvement. In EIA practice, this is usually taken to mean the involvement of local communities, villagers, farmers, pastoralists *etc.*, as distinct from institutional or government stakeholders. 'People-centred' process are central to effective EIA. Although the EIA industry has accepted this notion relatively recently, there is now widespread awareness of the importance of ensuring effective public involvement in EIA. Public involvement can occur to different levels – from one-way information flows (e.g. from practitioner to village stakeholder) to two-way information- and responsibility-sharing. There are also different types of public stakeholder – and each requires different considerations to be taken into account when deciding how and when to involve them. With this in mind, the case studies explored public involvement issues in Tanzania, for example, the level of participatory involvement, the types of public stakeholder groups involved, and the influence that public involvement had on the decision-making process.

In the sections which follow, the above three aspects of EIA practice are discussed in detail. In each case, key issues emerging from the case studies are presented, and summarized in tables 4.4, 4.5, and 4.6. Each aspect is discussed in the following sections in relation to three EIA performance indicators:

- the effect of the EIA process on decision-making;
- institutional learning and the 'exposure' of proponents and project designers to environment and social considerations; and
- the level of subsequent compliance with the environmental management recommendations contained within the EIS.

4.4.2 Interaction between the EIA team and the project design process

The case studies revealed a number of key issues. These are discussed below and summarized in Table 4.4.

- **Integration between EIA and project design has been minimal in Tanzania.**

  In six of the seven case studies, interaction was limited to the provision of background documents and project designs by the proponent. In these cases, the EIA generally had little or no significant influence of the EIA process on project design.

  Only in the case study of the Kilombero Valley Hardwood Project did a significant level of integration and dialogue occur, and this led to improvements in project design. In this example, unique in Tanzania to date, design changes reduced environmental and social costs and enhanced benefits. Changes in the way the project was implemented (after submission of the EIS) could also be traced back to this dialogue.

  Conversely, lack of interaction meant that opportunities to avoid impacts were missed. For example, in the case of the development of tourist facilities within the Serengeti National Park, visual impacts could have been reduced and waste disposal problems could have been avoided had more time and resources been available to discuss these issues and determine solutions. However, in this case, the EIA process had positive impacts on project implementation, since it laid the framework for constructive dialogue. This helped to ensure that post-completion environmental management recommendations were implemented to some extent.

- **Positive changes in attitude occurred only where the EIA was initiated early in the project cycle.**

  If the EIA process is initiated early enough in the design phase of the project, it allows sufficient time for a positive working relationship to develop between practitioner and proponent. An example is, once again, the Kilombero Valley Hardwood Project. Here, dialogue during the EIA study led to indirect and longer term changes. For example, the proponents credited the EIA process with stimulating important changes in thinking on approaches to development planning within the organization as a whole.

  The existence of a policy framework for EIA can encourage dialogue. TANAPA's EIA policy provides a strong incentive for proponents to engage with the national parks authorities, and other stakeholder groups (including public stakeholders) where necessary.

In the case of the Kilombero EIA, the funding agency's environmental policy encouraged the proponent to take the EIA seriously, and comply with its findings.

- **EIA processes in Tanzania have been output-oriented.**

  Most EIAs have essentially been 'rush jobs' where the completion of EIS is seen as *the* principal goal. This is manifested in the disproportionately high number of preliminary EIAs (see chapter 4). This indicates that project proposals are generally under-assessed in cases where EIA is applied.

  The output orientation of EIA in Tanzania is driven by both proponents and practitioners. Proponents are often required to prepare an EIS in order to meet regulatory requirements (eg. those of TANAPA in the national parks) or more commonly, to secure the release of donor funding. In these circumstances, proponents often commission consultants to prepare a statement that meets the needs of the agency or donor concerned, and at minimal cost. Practitioners are usually constrained by time. From their perspective, interacting with proponents or design teams often requires more time than is available. Furthermore, interaction and dialogue is often not seen as essential if the goal is perceived as simply to prepare an EIS. Examples of projects in Tanzania typifying this problem include lodge developments within Serengeti National Park, cathodic stations in Mikumi National Park, and graphite mining at Merelani.

- **Proponents rarely accept the findings of an EIS**

  We know of no examples in Tanzania where project proponents formally accepted an obligation to implement the recommendations of the EIS.

- **Learning opportunities have been missed.**

  Opportunities to expose proponents to environmental and social considerations have been missed. This is largely because most EIAs have been conducted as 'stand alone' processes' with little integration with project design and management. In most cases, the EIA process was so divorced from project design process, that project managers were unaware that an EIA had been undertaken, or were oblivious of the findings and recommendations included in the EIS. Examples are the graphite mine at Merelani, and the Moshi Pesticides Plant. Not surprisingly, these EISs had little or no effect on project operation!

  Where there was a significant level of interaction between the project team and the proponent (eg. the Kilombero Valley Teak Plantation project), the EIS was still used and referred to on a regular basis, nearly *5* years after its completion.

Table 4.4 Interaction between EIA and the project design process: summary of findings

1. Teak Plantation Establishment, Kilombero	Generally good – the closest interaction of all case studies reviewed. Consensus not reached on some key issues. No formal acceptance by the proponent of the EIS.
2. Pesticides Manufacturing, Moshi	Except for the provision of background information, no direct interaction between the EIA team and the proponent. No formal acceptance by the proponent of the EIS.
3. Graphite Mining, Merelani	Minimal interaction between the EIA team and project proponents. Proponents viewed the EIA study as an obligatory 'hurdle' to secure project development funding. The EIA was a 'stand-alone' process. No formal acceptance by the proponent of the EIS.
4. Hydropower Redevelopment, Pangani Falls	Separate EIS study components were undertaken over several years. Each study team reportedly 'worked closely' with the project proponents. Rather little cohesive dialogue. No formal acceptance by the proponent of the EIS.
5. Oil Pipeline Protection, Mikumi National Park	The EIA team 'consulted' with the principal stakeholders involved – TANAPA and the project proponent – the Tanzania-Zambia Pipeline Ltd. (TAZAMA). In practice, interactions between TAZAMA and the EIA team were extremely limited due to time constraints. The proponent verbally agreed and accepted the findings of the EIA study.
6. Tourist Development (Serengeti – Serena) Serengeti National Park	Extremely limited interaction between the EIA team and project proponents. Constraints imposed by extremely limited time and financial resources, and by the late introduction of EIA in the project development process. Support provided by TANAPA and the proponent which enabled some dialogue to occur. The EIA *has* provided a framework for a constructive dialogue between the national park and the proponent, to help ensure compliance with monitoring and mitigation recommendations. There was no formal acceptance by the proponent of the EIS occurred.
7. Tourist Development (Grumeti Serena), Serengeti National Park	As 5 above.

4.4.3 Timing and duration of the EIA process

(see summary in table 4.5).

- **EIAs are usually commissioned too late**

  In all but one example, EIA studies were initiated after project designs had reached an advanced stage. In several cases, designs had been completed, and in one example, construction was already well advanced. In each example, the case study analysis could link the lack of influence of the EIA process on subsequent decision-making and project design to the late stage at which EIA was introduced.

There are clear examples where the earlier introduction of EIA could have avoided or minimized the subsequent development of 'problem issues'. The EIA for the Moshi Pesticide Plant came too late to act as a mechanism for addressing public concerns over the nature and siting of the plant. This led to expensive and time consuming legal proceedings, panels of inquiry, and belatedly, an environmental impact study. The graphite mining operation at Merelani provides another clear example. In this case, the late stage at which the EIA was initiated meant that the severity of social conflicts (over access to mineral resources) was not foreseen until it was too late to change the design of the project. These conflicts led to loss of life, serious injury and to a high recurrent costs for security.

- **Early introduction of EIA can help proponents avoid conflicts and reduce costs**

  The EIA for the Kilombero Valley Teak Project shows that EIA can help to avoid negative environmental and social impacts and optimize social benefits. It resulted in enhanced local support for the project which was able to progress without tensions or conflicts.

- **Lack of forward planning is the principal cause of late and under-funded EIA processes**

  The case studies suggest that there were three principal reasons for undertaking EIA in Tanzania:

  a) to fulfill donor guidelines (eg. teak plantation establishment in Kilombero valley; graphite mining at Merelani, Pangani Falls Hydropower);

  b) as a firefighting response to growing social conflicts (eg. pesticides manufacturing at Moshi);

  c) to meet existing EIA regulations of Tanzanian institutions (eg. TANAPA in the case of oil pipeline protection in Mikumi National Park and tourist lodge developments within the Serengeti National Park).

  In no case was the need for EIA foreseen or included in the original project documents. Thus, each EIA started late in the project development process. In almost all cases, proponents were reluctant to provide adequate resources for the EIA to be undertaken to a sufficient standard. The Pangani Hydropower study provides a classic example of how expensive EIA studies can have little if any effect on decision-making if undertaken too late in the project cycle.

- **EIA processes generally finished 'too early'**

  In most of the case studies reviewed, the EIA process ended with the submission of the EIS. In no case did EIA practitioner involvement continue during the implementation or post-completion stages of the project. Post-completion monitoring seems to be particularly poor in this respect. The EIAs undertaken within the national parks are the only[10] examples where compliance monitoring continues (based loosely on the recommendations of the EIA).

[10] Most recently, the EIA process for the Kihansi Hydropower Project contains a provision for five years of post-project monitoring.

Table 4.5: Timing and duration of the EIA process: summary of findings

1. Teak Plantation Establishment, Kilombero	Preliminary EIA study commenced at an advanced stage in project design. However, pEIS submitted well before design was completed and before project implementation. The pEIS process was undertaken intensively during a 1 month period, involving a team of around 8 specialists.
2. Pesticide Manufacturing, Moshi	The preliminary EIA was undertaken after plant designs had been decided upon, buildings and infrastructure established, machinery installed and the plant ready for commissioning.
3. Graphite Mining, Merelani	EIA study undertaken after the design of the plant and mining operation had been finalized.
4. Hydropower Redevelopment, Pangani Falls	EIA studies were initiated late in the project cycle. Designs for redevelopment were largely completed prior to the start of environmental assessment studies. Some studies were not prepared until after construction had begun. Time constraints imposed on the EIA team meant that studies were reportedly 'rushed'.
5. Oil Pipeline Protection, Mikumi National Park	The EIS was prepared after project designs had largely been finalized, but prior to the construction of the Cathodic stations. The EIA was prepared over a 40 day period, drawing on expertise from 2 specialists.
6. Tourist Development (Serengeti – Serena), Serengeti National Park	The EIS was prepared after project designs had been completed and shortly before construction started. The EIA process was severely constrained by time limitations imposed on the EIA team – only 2 days of field time were available to the practitioners.
7. Tourist Development (Grumeti), Serengeti National Park	As 5 above

4.4.4 Public involvement

- **Public involvement in EIA has been minimal in Tanzania**

  (see summary in Table 4.6)

  With one exception, the case studies indicated minimal public involvement. Where some form of public involvement was addressed, this was always superficial and the techniques used were extractive, rather than characterized by dialogue. There were no examples of the use of participatory (ie. two way dialogue) approaches.

- **Public involvement can improve project design and success.**

  The Kilombero Valley Hardwood Project provides an example (albeit limited) of how public involvement can actually improve project design and sustainability, and lead to more positive working relationships with local people.

Table 4.6: Stakeholder involvement: summary of findings

1. Teak Plantation Establishment, Kilombero	This preliminary EIA included discussions with all key stakeholders, including government departments at central, regional and district levels, NGOs, village visits and the proponent organization. The results of these discussions led to some changes in project design, including the establishment of a locally-controlled social fund.
2. Pesticides Manufacturing, Moshi	EIA prepared in response to public outcry over siting the plant within a residential area. The EIA process (reportedly) did not involve significant levels of stakeholder involvement. No evidence was presented in the EIS of (local) public involvement in the process.
3. Graphite Mining, Merelani	The EIS makes brief reference to a visit of the consultants to two local villages but does not indicate what questions and issues were discussed. The extent to which those consulted were aware of the objectives of the EIA process, or the scale or design details of the proposed project, is unclear. No references were made in the EIS report to the views expressed by the local communities, nor to the influence of those views in shaping the content of the EIS. With the exception of a reference to consultation with the village/ward government, there appeared to be limited involvement of other stakeholders. Such limited local 'involvement' does not appear to have influenced the design or operation of the mine.
4. Hydropower Redevelopment, Pangani Falls	A small sample of local villagers around the dam site were consulted. Stakeholders, such as water users and fishing communities upstream and downstream of the dam, were not consulted.
5. Oil Pipeline Protection, Mikumi National Park	TANAPA and TAZAMA were consulted as part of the study, although surprisingly, their views and contributions are not outlined in the EIS. The study did not involve the tourist industry (most of the impacts predicted were aesthetic), and no mention is made of other governmental stakeholders.
6. Tourist Development (Serengeti-Serena), Serengeti National Park	With the exception of TANAPA, there was no stakeholder involvement in the EIA. Time constraints prevented the EIA team visiting local settlements in areas outside the park from which stone and aggregates were extracted. The study did not include involvement of the tourist industry (most of the impacts predicted were aesthetic), and no mention is made of other governmental stakeholders.
7. Tourist Development (Grumeti), Serengeti National Park	As above

- **Omitting public involvement can add to project costs**

  The graphite mine at Merelani is a classic example of a situation in which a proponent omitted to deal seriously with claims and opposition expressed by local, artisanal mine operators. The environmental assessment process provided a golden opportunity to address this issue,

and work towards agreements, perhaps based on benefit-sharing agreements. Unfortunately, the EIA was a missed-opportunity. Simmering tensions then led to recurrent and violent conflicts. This also imposed substantial additional costs on the commercial mine in the form of security arrangements.

- **Local stakeholder involvement in compliance monitoring has not been encouraged**

  There do not appear to be any EIA processes in Tanzania where local institutions or people have been involved and empowered to help monitor and evaluate the impacts of implemented projects (a technique known as *participatory monitoring and evaluation*).

5 Discussion and conclusions

5.1 Changing perceptions of the role of EIA

From its beginnings in the United States, when introduced as a result of the National Environmental Policy Act of 1969 (NEPA), EIA has always been viewed as a predictive and systematic process. Its focus traditionally has been seen (and to some extent still is – see Wood, 1995), as addressing *major* projects. Increasingly, the role of EIA is being re-defined. More attention is now given to the assessment of small and community level projects and, in the upstream direction, to assessing plans, policies and programmes (through strategic environmental assessment – SEA). Many people now view the role of EIA simply as a 'provider of information' for decision-making. Others perceive its function as a mechanism for improving accountability in planning and decision-making, and for providing an opportunity for stakeholder involvement. Carbon (1995) argues that one of EIA's key roles is to remove the 'odium' of defending decisions which are made 'before stakeholders have had a say'.

Increasingly, EIA's effectiveness in fulfilling these 'multiple roles' depends not only on the soundness of the techniques used to gather such information, which has long been a preoccupation of impact assessment research, but also on the interaction between the EIA process, key stakeholder groups and decision-making mechanisms.

The wider policy question that this study[1] seeks to address is whether EIA is being applied in a way that is relevant to decision-making processes in developing countries. Critics argue that EIA is essentially a 'developed world' concept, designed and tailored for formally regulated planning contexts, and not necessarily applicable, nor adaptable, to the very different means of planning and governance that prevail in many developing countries. Many developing countries lack the robust planning frameworks, institutions, and human and financial resources which are generally thought critical for effective EIA (Ebisemiju, 1993). Indeed, recent and influential guides to EIA practice have emphasized technical 'tweaking' and have underplayed the importance of the policy, institutional, legislative and political context in which EIA is supposed to perform in developing countries

5.2 Has EIA been effective in Tanzania?

Our findings show that EIA has had very little impact on decision-making in Tanzania. In most cases, EIAs were extremely late in starting, under-resourced and generally omitted to involve other stakeholders to any meaningful extent. Most focused on outputs and paid little attention to process. There were few examples where dialogue between EIA practitioners and proponents led to design modifications before the submission of the EIS. In most cases, the EIS did not define, cost and integrate environmental management into project design, and few defined compliance responsibilities. Perhaps not surprisingly, compliance with the recommendations of EIA has been the exception rather than the rule. Consideration of alternative project options was often absent, or extremely weak, and there were no examples where EIA had seriously considered cumulative impacts. In one example, cumulative impacts that were not addressed by an EIA process eventually contributed to undermining the

[1] As the first of a series of country case studies

performance of a major hydropower development project. In many cases, it appeared that the EISs were appearing to justify project selection and design. Furthermore, there is a considerable body of opinion, particularly prevalent amongst the private sector and within senior tiers of government, that views EIA in its conventional form as an impediment to much-needed development. This is perhaps a reflection of EIAs being 'imposed' by donors, and/or the late start to many EIAs, which then become a 'problem' when they belatedly call for design changes.

The study found no evidence that donor agency-supported EIA processes, which often harnessed international consultants, and used donor guidelines, led to more effective EIA. This appeared to be because donor interest in the process generally dissipated once the EIS had been prepared and internal agency needs had been fulfilled. The study found no examples where donor agency interest extended to ensuring EIA recommendations were adhered to during implementation, post completion or audit phases of the project. Hence, donor agencies have failed to learn from their own experience with environmental assessment in Tanzania. Further, desk officers and other in-country agency staff could generally say little if anything about the performance of the EIA processes they had commissioned.

5.3 Is EIA effective elsewhere?

Determining the degree of influence of EIA on decision-making is inherently difficult, since many other factors exert influence on decision-making. These include political, financial and economic considerations. Despite these difficulties, determining the impact of EIA on decision-making, at least in indicative terms, remains a crucial issue, and becomes more so as interest grows in the process, and as greater faith is invested in its perceived powers. Most previous studies (eg. Sadler, 1996) have relied upon 'soft indicators', particularly interview and questionnaire surveys with EIA 'insiders'[2], rather than empirical studies. In general, these support the view that the benefits of EIA outweigh the costs, but often refute the view that EIA has any tangible effect on decision-making itself – as manifested in design changes, cancelled projects, selection of alternatives, *etc.* Heuvelhof and Nauta's (1997) study of the effect of EIA in the Netherlands provides a notable exception. They found that 79% of EIA processes directly impacted[3] on decision-making processes. Few studies have focused on practice in developing countries, where the policy and legislative context is often very different from that of developed countries.

Wood (1995) has examined attitudes and opinions of EIA professionals (as an indicator of EIA effectiveness) in relation to seven 'mature' EIA systems[4]. In the cases examined, EIA was perceived as contributing a number of benefits, such as improved coordination between government agencies (eg. UK), and changes in behaviour of EIA 'stakeholders' (eg. Canada, UK and to a lesser extent, Australia). However, only limited evidence of positive impacts on decision-making could be found (see Box 5.1). The Californian EIA process was found to be a notable exception, where EIA appeared to influence decision-making considerably – in large part because of the diligence and commitment of

[2] Taken here to mean those with a vested interest in EIA, such as EIA consultants, certain academics, and EIA process and policy managers.

[3] Note that the term 'impact' is defined considerably more loosely than in this study. Heuvelhof and Nauta define impact as '...if the EIA influences the actions of the actors involved and/or the concepts these actors have'.

[4] United States of America; California; United Kingdom; The Netherlands; Canada; Commonwealth of Australia; and New Zealand.

environmental groups, and the litigation powers available to them. Evidence of influence over decision-making was also cited for New Zealand. For the United States, United Kingdom and the Netherlands, respondents cited a lack of any 'hard' evidence that improvements in decision-making had actually occurred. An earlier study by Bear (1988) also found very little empirical evidence of the effect of EIA on decision-making in the USA. Clarke (1993) comments reflectively on the successes and failures of extensive EIA experience in the USA:

> *'Certainly, many environmental impact statements (EISs) are too long, take too long to prepare, cost too much, and many times do little to protect the environment. Some EISs are prepared to justify decisions already made, many agencies fail to monitor during and after the project, some agencies do not provide adequate public involvement, and few agencies assess the cumulative effects of an action.'*

Box 5.1: EIA effectiveness and future directions

Optimistic assessments of EIA effectiveness have provided the basis for current thinking on future directions of EIA. For example, a recent (and highly influential) international study on the effectiveness of EIA (Sadler, 1996) recommended a three-point framework for 'sharpening' EIA as a sustainability instrument, by:

- staying within source and sink capacities;
- undertaking full cost analysis of natural capital stock to determine impact acceptability; and
- applying in-kind compensation for all residual impacts to meet the 'no net loss rule.'

These recommendations implicitly assume that developing economies can afford to implement or manage such ambitious and optimistic recommendations in the short term, so that they can reap their benefits in the longer term. They also assume that EIA has 'proved itself' to be an effective instrument of change in development planning. Indeed, resources are now being made available to extend EIA principles to policy, plans and programmes, through the development of strategic environmental assessment (SEA).

In the southern context, where mechanisms for governance, development planning and implementation are often very different from those of the countries where EIA has long been an established part of the planning and development process, performance assessment studies are particularly lacking.

Table 5.1: Evidence of EIA influence on decision-making (adapted from Wood, 1995)

Jurisdiction	Empirical evidence for improved decision-making?	Professional 'perceptions'
United States	One study indicates that the impact of EIA on decision-making has been minimal.	Virtually unanimous view amongst key stakeholders that benefits of EIA exceed its substantial time and other costs
California	Many projects modified, and some projects stopped as a result of legal actions under California Environmental Quality Act – CEQA (which provides the legal basis for EIA).	Cost and time requirements high, but outweighed (for most participants) by improved project mitigation measures. Changes of attitude among local politicians do not seem to have occurred. Success of EIA attributed to litigation powers and the diligence of environmental groups.
United Kingdom	Little evidence that EIA has altered outcomes of decisions.	Consensus (but not unanimity) as to utility of EIA in improving project mitigation measures
The Netherlands	No empirical evidence to prove that EIA has altered the outcome of decisions, especially if measured in terms of project cancellations[5].	Virtually unanimous belief that the benefits of EIA outweigh its financial and time costs. EIA thought to have 'changed the behaviour' of EIA stakeholders.
Canada	Quality of some projects generally thought to be better as a result of EIA. Whilst some projects have been abandoned as a result of EIA, main benefit is seen as mitigating the environmental effect of proposals.	Costs and (especially) time requirements often high. Significant mitigation has occurred. Benefits of initial assessment less clear.
Commonwealth of Australia	Empirical evidence difficult to obtain.	Complaints about uncertainties and delays generally outweighed by belief that EIA delivers real benefits.
New Zealand	None available	Virtual unanimity of view that benefits of EIA system outweigh costs but considerable unfamiliarity remains.

5.4 Impacts on decision-making

Impacts on decision-making can only be defined meaningfully in relation to the roles that EIA is supposed to perform. The multiple roles discussed in section 5.1 (above) complicate this process. Furthermore, to avoid ambiguity in the interpretation of results, it is important to be clear about what we mean by *impact*. This study recognizes *indirect* and *direct* impacts.

[5] Note that this study preceded Heuvelhof and Nauta (1997).

Examples of indirect impacts of EIA on planning and project implementation include:

- a change in attitude or organizational culture attributable, at least in part, to a specific EIA process;
- the stimulation of public debate on environmental and social issues arising from the EIA of a development proposal;
- an improvement to institutional learning; and
- the exposure of individuals or technical agencies to environmental or social issues which they might not otherwise have been required to address.

Sadler (1996) cites evidence from surveys of EIA practitioners worldwide (although mainly from developed countries with mature EIA systems) that supports the argument that EIA makes an important contribution to improving awareness of environmental concerns. He cites survey returns that indicated that 89% of respondents believed that EIA had contributed to significant or moderate improvements in environmental awareness. A recent review of NEPA performance in the United States (cited by Cohen, 1997) found that:

> "Agency managers who have learned to use NEPA have discovered that it helps them to do their jobs. It can make it easier to discourage poor proposals, reduce the amount of documentation down the road, and support innovation"

Examples of direct impacts of EIA on planning and project implementation include:

- an alteration to the way in which a development project is planned and implemented;
- a decision *not* to proceed with a project where the EIA has identified potentially significant environmental and social impacts; and
- a decision to adopt alternative approaches or project designs to achieve objectives as a result of alternative design options identified by the EIA.

5.4.1 Indirect impacts

To date, approaches to environmental assessment in Tanzania have not been conducive to institutional learning – around 80% of EIAs have been commissioned and funded by external development assistance agencies; 70% of them have been undertaken by international consulting companies, and nearly one quarter of all EIAs failed to draw upon Tanzanian expertise to any extent whatsoever. Furthermore, in the absence of clearly defined institutional responsibilities for EIA, there is rather little capacity to absorb and retain experience that has been gained. This problem is compounded by frequent staff changes in government agencies, which means that those who have had the opportunity to develop expertise in EIA through training courses (often elsewhere) or through involvement in EIA processes, are often re-allocated to different government positions.

There were clear indications that in the few circumstances where an EIA regulatory framework exists in Tanzania (such as for most protected areas), the EIA had stimulated a more structured approach to addressing environmental and social issues by private sector proponents. Further, there was a belief that EIA had provided a useful framework for defining rules and working relationships between those responsible for environmental management, and private sector proponents. Two recent examples indicate that EIA processes can provide a useful focus for debate on the social and environmental implications of development. This helped raise awareness of issues thus far unfamiliar to most people in Tanzania.

Nonetheless, the study revealed a number of examples where EIA had contributed to more constructive and longer term changes in attitudes to environmental management. For example:

- EIA was cited as having contributed to improving the way a major private sector development agency (albeit a foreign company) addressed environmental and social concerns, not only for the specific project concerned, but also by stimulating an important internal debate. This in turn stimulated a change in the 'culture' of decision-making within the organization, which resulted in more attention being given to integrating social, environmental and development considerations with economic objectives (see case study 1);
- The Tanzanian National Parks Authority (TANAPA) cited EIA as having improved environmental awareness amongst private sector proponents within the national parks, and this had contributed to more positive working relationships between TANAPA and proponents.
- An EIS prepared for a major aquaculture development proposal for the Rufiji Delta helped stimulate a vibrant public debate which involved local farmers and fisherfolk, various government agencies, academic institutions and development assistance agencies. In this case, the public review process for the environmental impact assessment statement provided the focal point for this debate (see box 5.2).

Box 5.2: Prawns and protest? EIA as a focus for debate in the Rufiji Delta

A key role of EIA is to stimulate discussion and provide a focus for debate. For EIA to perform this role effectively, there must be opportunities for public review, comment, and discussion. The EIA process for a proposal to develop commercial aquaculture in the Rufiji Delta provides a good example in Tanzania. In this case, an EIA was commissioned by the project proponent – a commercial fisheries company – in reaction to growing concern over the potential social and environmental issues that could result from the proposed development (this included plans to alienate a large proportion of the Rufiji Delta for commercial shrimp production). The EIS concluded that the project should 'proceed as planned' (Boyd, 1996). The EIS was made available for public review, and attracted comments from local people, academics, development planners and non governmental organizations. Many viewed the EIS as being biased in favour of development (see Box 4.4), questioned the level of public involvement in the EIA process, and identified a number of important technical deficiencies (Fottland and Sørensen, 1996; Hughes, 1996). The review process contributed to an improved level of awareness of the project, and its potential implications for the people and environment of the Rufiji Delta. An important public debate had started. In response to growing concerns, the Government of Tanzania requested a second and more detailed EIA (AFC, 1997). The second EIS was made available for public comment, provided the focus for detailed review by a specially-appointed expert panel, and was the subject of a heated public hearing. Each of these review components identified important technical, environmental and economic discrepancies. Despite the massive local and international outcry over the proposals, the government decided to approve the project (*Daily News*, 2nd December 1997). Nonetheless, further EIA processes will now be expected to meet much higher standards.

5.4.2 Direct impacts

Direct impacts were elucidated through discussions and interviews with project

managers, EIA practitioners and other EIA stakeholders; and through the review of documentary and literature sources. The conclusion is that EIA has thus far had only a marginal direct effect on project design, planning and implementation in Tanzania. There are, however, some limited signs for optimism.

The review shows that, of the 26 examples reviewed as part of the study, only seven proposals subjected to EIA were subsequently implemented (all of these were reviewed in detail by this study). Of these seven projects, EIA directly influenced project design and/or implementation in only one case, and in this case, only to a rather limited extent. Of the remaining 19 projects, two projects remain the focus of ongoing review, largely because of issues raised by EIA. In the remainder of cases (ie. projects for which EIAs were commissioned, but which were subsequently not implemented), EIA appears to have played no part in decisions not to proceed[6]. Hence, of the 26 EIAs reviewed in this study, only three have tangibly influenced decision-making, and two of these may yet proceed in much their original form.

5.5 What factors influenced degree of impact?

Answering this question was one objective of the International Study of the Effectiveness of Environmental Assessment (Sadler, 1996). The effectiveness study tried to explore the issue through a questionnaire survey of members of the International Association of Impact Assessment (IAIA) and other government and development assistance agencies. Amongst those conditions found to support effective EIA were:

- a sound legal and policy basis;
- the existence of thorough procedural frameworks;
- the existence of compliance requirements; and
- the existence of effective public involvement mechanisms.

This is not a comprehensive list of considerations and, to some extent, provides an interesting reflection of conditions perceived as important by the respondents to the questionnaire, which were dominantly individuals with experience from industrialized countries[7].

In Tanzania, it proved extremely difficult to distinguish between the different factors involved. In most cases, more than one factor appeared to influence the performance of the EIA process. For example, most of the EIAs reviewed had been initiated very late in the project cycle. In each of these cases, this appeared to play an important part in the poor performance of the EIA processes, but other factors invariably contributed or exacerbated performance issues.

- Time of initiation

Evidence from around the world clearly demonstrates the importance of initiating the EIA process as early as possible in the project cycle, and continuing environmental assessment activities throughout implementation and into post-completion (WRI, 1995; Sadler, 1996; CEQ, 1997). A recent review of 25 years of experience of NEPA (CEQ, 1997) found that:

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[6] For comparison, Heuvelhof and Nauta (1997) reported a figure of 3% for cancelled projects as a direct result of EIA in the Netherlands.

[7] Most of the membership of IAIA source from North America, Europe and Australia; and most of the institutional respondents to the questionnaire were from the industrialised countries.

"[EIA]... is often triggered too late to be fully effective... By the time an environmental impact analysis is started, alternatives and strategic choices are foreclosed."

Heuvelhof and Nauta (1997) found a clear link between the stage at which the EIA process was triggered, and its impact on decision-making. Their work demonstrates that, where EIA was introduced early, this gave time for the EIA team to develop links with the project development process, and provided room to find solutions which served to improve both environmental and project performance.

In Tanzania, EIA almost invariably started too late to influence significantly project design, by which time most key decisions had already been made. In these circumstances, EIA became perfunctory, and performed either a 'reactive' or a 'firefighting' role (see box 5.3).

Our case study analysis identified only a limited amount of evidence of 'positive' effects of the EIA process. In the only case study where EIA was initiated at an early stage of the project cycle[8] (Kilombero Valley Teak Development Project), this led to the adoption of significant changes to project design and implementation practice. Significantly, this was also the only project that exhibited a commitment to complying with recommendations for mitigation and monitoring. In all other case studies reviewed, EIAs had been undertaken at a stage of project development that left little or no scope for substantive alterations to project design to be given serious consideration. Furthermore, in nearly all cases, the EIA process ceased at or before decision-making, a finding that seems to be consistent with EIA experience elsewhere[9].

In most cases, we found that the need for an EIA was not recognized until project designs had largely been finalized. There were three categories of reasons for this:

- *Poor project planning and management:* Often, proposals prepared with support from donor agencies were presented formally for approval without prior thought being given to the need for an EIA. Donor agencies then responded, sometimes after prompting from their head offices, by requesting the preparation of an EIS, often to satisfy their own internal EIA guidelines. Since project designs were usually at an advanced stage by the time they were presented to donor agencies, there was little scope to introduce new design ideas or alternative approaches existed. The EIA essentially became a rubber stamp process;
- *Lack of awareness of existing EIA requirements*: Proponents for lodge developments within the national parks became aware of the need for EIA only after designs had been completed, and key decisions – such as those concerning siting – had been taken. This was also the case for several donor supported projects (eg. the graphite mine at Merelani).
- *Public concern*: Two EIAs appear to have been undertaken to allay growing public concern over the environmental and social implications of development proposals. In both cases, project development plans had proceeded to an advanced stage, before the EIA was started.

[8] This refers to projects that were subsequently implemented.

[9] A recent global survey of EIA professionals found that most felt that post-decision phase EA activities fell well short of sound practice (Sadler, 1996)

Box 5.3: Reactive and firefighting EIA processes in Tanzania

- ***Reactive EIAs*** were undertaken to comply with legal or administrative obligations. Often these were undertaken to secure the release of project development funds or development approval. The case study of the graphite mine at Merelani (case study 3) is a clear example of the former, where the EIA was undertaken after the project design had been completed and a release of funds was required from the African Development Bank – for which an EIS was a required. EIAs for lodge developments within Serengeti National Park (case studies 6 and 7) also fall into the latter category, where EIA studies were invited after project design had largely been finalized (including size, siting, building design) in order to comply with a request from TANAPA. The EIA processes for both developments were compromised by time and financial constraints, and based on field visits of one day each. Not surprisingly, they were found to have only marginally influenced project design and implementation. For all three projects, proponents felt that the EIAs were perfunctory and were undertaken simply as a means of overcoming a bureaucratic obstacle. Not surprisingly, the operational managers were largely (in one case, completely) unaware of the content of the EIS document, and had implemented few, if any, of the recommendations in the EIS reports.
- ***Firefighting EIAs*** were undertaken under two scenarios. Firstly, to 'smother' emerging opposition or disquiete from local communities or other stakeholder groups. They can sometimes be successful in achieving this objective, but the tactic has also backfired in Tanzania. Under the second scenario, the EIA can fan the flames of conflict, and this has happened on at least one occasion. The case study of the Moshi Pesticide Plant provides an example of the first scenario. Here, construction of the plant had actually been completed, but there was growing disquiet amongst the people of Moshi town since the plant had been constructed close to residential areas. This forced the proponent to explore mechanisms to allay community fears and hostility. An EIS was prepared and, despite the absence of any tangible level of public involvement, or any response by the plant operators to the recommendations of the EIS, public protest and disquiet (which at one stage had succeeded in bringing legal proceedings against the proponents) simply ebbed away. In this case, the EIA appeared to stall and deflate public opposition, even though the EIA process had no tangible effect on the siting, design or operation of the plant.

  The EIS for a shrimp development project in the Rufiji Delta is an example of the second scenario. The first version of the EIS appeared to have been prepared with a view to convincing local people, planners and decision-makers alike of the merits of the proposed project, whilst paying little heed to serious concerns of social, environmental or sustainability concerns. In this case, the EIS succeeded only in fanning the flames of conflict. Attention focused on the sub-standard quality of the EIS. A second EIA process followed which attracted further attention, which eventually led to heated debate and the 'shelving' of the project, at considerable cost to the proponent (see Box 5.2).

- Process orientation

Surprisingly little attention is given to the importance of *process* in the mainstream EIA literature. In developing countries, EIA regulatory frameworks are often weak or absent, and capacity to implement recommendations for mitigation and environmental management is often

severely constrained. Thus, ensuring that EIA teams work closely with project design staff offers an important opportunity to enable and encourage project proponents to take on board environmental and social considerations.

The analysis in Chapter Four shows that very little attention has been given to process orientation in Tanzania. In most cases, the production of the EIS appeared to be viewed as the end in itself. In all case studies reviewed, the EIA process ended with the submission of the EIS. In most cases, EIA processes started too late, and thus reduced opportunities for interactions to occur between EIA practitioners and project design and implementation teams – there were no examples of EIA practitioner involvement continuing during the implementation or post-completion stages of the project. The high proportion of EIAs studies which were actually *preliminary* in nature (63%) is another indicator of this deficiency. Where close working relationship between the EIA team and the project design team were given a chance to develop, the proponents were much more willing to adapt the project design to minimize environmental and social costs and optimize environmental and social benefits.

- **Resource availability**

Time and budget restrictions are considered widely by EIA practitioners to be significant constraints to EIA 'best practice'. From a proponents perspective, EIA is often perceived as imposing delays on project development and they are understandably keen to impress the need for quick results. Wood (1995) found that delay was one of the most important criticisms leveled at EIA in a range of different countries with mature EIA systems.

Experience has shown that the financial cost of undertaking an EIA is usually a small proportion of total development costs – usually less than 1% of project costs and often less than 0.1% (Mercier, 1995; Cohen, 1997, see Table 5.2). Moreover, this investment can often save considerable costs at a later stage of a project cycle.

Table 5.2 : EIA costs as a proportion of total project costs: experience from World Bank-supported projects (Mercier, 1995)

Project type	Cost of Environmental Assessment (thousand US$)	Project cost (thousand US$)	% of total project costs
Thermal Power Generation Development, Ghana	*250*	*400,000*	*0.06*
Forest Management, Tanzania	*131*	*26,000*	*0.5*
Energy Sector Development, Kenya	*510*	*1,000,000*	*0.05*
Energy Sector Development, Malawi	*180*	*231,300*	*0.08*
Petroleum Industry Development, Guinea Bissau	*20*	*20,000*	*0.1*

In Tanzania, EIA costs are considered a burden, and proponents tend to opt to avoid or minimize incurring such costs. Importantly, however, the shortage of funds available to the proponent may not be the most important reason why so few resources are actually devoted to EIA. The case studies suggest that a more important factor is the late stage at which the need for EIA is actually foreseen. This results in there being little time available in which to undertake an adequate EIA and to disperse the funds that 'should' have been used for environmental assessment (and also leaving little scope for real changes to project design to be negotiated). The 'quick-and-dirty' EIAs that tend to be commissioned in these circumstances also tend to be cheap and ineffective.

Stakeholder and public involvement

There is a growing consensus that well-structured, timely and broad-based stakeholder involvement is a vital ingredient for effective environmental assessment. EIAs that successfully involve stakeholders tend to lead to more influential environmental assessment processes and, consequently, to development that delivers more environmental and social benefits. Conversely, EIAs that fail to be inclusive tend to have less influence over planning and implementation, and consequently result in higher social and environmental costs.

In Tanzania, stakeholder involvement in EIA, particularly of local communities and their representatives, has been minimal. Views expressed during the inception workshop clearly indicated strong support for the principal of stakeholder involvement in EIA. This is extremely encouraging. Yet interviews undertaken as part of this and earlier studies (IRA/IIED, 1995; Guilanpour, 1995) suggested that negative attitudes to stakeholder involvement (particularly public involvement) are still prevalent amongst policy-makers, proponents and EIA practitioners, who often view local communities as 'ignorant' and unable to contribute usefully to planning and decision-making. Socio-cultural issues were also commonly cited as reasons why local people are not, or should not, be involved in EIA. Negative attitudes towards the involvement of local people in planning matters, which conventionally are considered as the preserve of 'experts', present a formidable barrier to making the transition to the more participatory approaches to EIA which are now common in many other countries.

Stakeholders (both local and non-local) were marginalised from the EIA process by one or a number of different ways:

- by *denying access to the EIA process* – either by simply not talking with other stakeholders, by not promoting awareness of proposed projects or the EIA process, or by viewing local stakeholders simply as sources from which to extract information. Combined, this accounted for 90% of all EIA processes undertaken in Tanzania;
- *by denying local people access to the findings of the EIA process*, for example by not making EISs or executive summaries available for consultation in project localities; by not providing language summaries in Swahili or other local languages – less than 8% of the EISs included a Swahili version of the executive summary; by failing to hold public meetings – less than 10% of all EIA processes held public meetings to discuss the findings of the EIA process; or by omitting to use non-written communication methods to disseminate findings where levels of illiteracy are high – all but one EIA relied solely on written communication methods.

- *by arguing that EIAs are 'confidential'* or the *'property of the proponent'* and hence refusing to release the EIS for public consultation; and
- *by omitting to report the views and perceptions of local people* in the EIS and/or omitting to explain the extent to which local or non-local stakeholder views had been incorporated in to the EIS and/or project design. This proved extremely common in the sample of EISs reviewed.

A number of examples illustrated the dangers of not involving adequately all major stakeholder groups. For example, the EIA for the graphite mine at Merelani (case study 3) failed to gauge the level of discontent amongst local communities and artisanal mining groups. Discontent eventually erupted into violent conflict and the marginalisation of local people, and meant that the proponent had to invest heavily in security arrangements to secure the mining site from periodic invasions. The EIA for the Hydropower Redevelopment Project at Pangani omitted to explore the views and seasonal levels of use by water users upstream of the dam site. This led to an over-estimation of the amount of dry season water availability, and hence to project under-performance when set against the original design specification. Subsequent efforts to introduce water pricing in the catchment to reduce dry season water demand then led to conflicts with water users.

More recently, a proposal to develop a massive prawn farm in the Rufiji Delta led to massive local and international opposition. The original EIS, which omitted to adequately gauge local opinion, implied that the environmental and social impacts would be insignificant, and that the project *'should proceed as planned'*. Clearly, this view was not shared by a significant proportion of the people of the delta, and the proponent was forced to prepare a second, and more detailed EIS. Once again, public involvement was somewhat limited until a heated public hearing provided an opportunity for the people of the Rufiji Delta (and other interest groups) to vent their views.

Whilst rare, there are some recent examples of good practice, which provide grounds for encouragement. Box 5.4 provides one example from Northern Tanzania.

Box 5.4: Local involvement in an EIA for road upgrading in Northern Tanzania

An EIA study assessed the potential impacts of upgrading a road in northern Tanzania, the principal purpose of which was to improve tourist access to Lake Manyara National Park, the Ngorongoro Conservation Area, and Serengeti National Park. The road traverses areas considered extremely important for wildlife and tourism, but is also extremely important for agricultural and pastoral livelihoods. The study followed World Bank guidelines (as defined by the Bank's operational directives) for environmental assessment practice. Involving different stakeholders became a strong focus of the EIA, and this required the adoption of a range of different tools and approaches. The environmental assessment included a programme of village-level public meetings in the impact area. The executive summary of the draft EIS was translated into Kiswahili and circulated widely before a series of additional public meetings was convened to focus on potential impacts and mitigation strategies. Pro-active attempts were also made to seek contributions from other stakeholders, using interviews, questionnaires and direct appeals for submissions. These succeeded in involving several stakeholder groups: government officials at national, regional and district levels; heads of government institutions in the study area; tour operators; and NGOs and other public groups.

Existing policy/regulatory framework

In the absence of national level EIA legislation, developments within the national parks, which fall under TANAPA's EIA policy and guidelines (TANAPA, 1993; 1994), provide the only opportunity to explore the potential of a statutory EIA framework in Tanzania. For this reason, three case studies from the national parks were selected for analysis. Prior to the introduction of EIA in national park policy, a number of proposals for tourist developments within the national parks were given permission by the Government of Tanzania, despite substantial opposition from TANAPA and other interest groups. The poor environmental performance of these lodges and consequently, poor relations between TANAPA and the lodge operators, has firmly convinced TANAPA of the potential value of EIA (Box 5.5). EIAs for several projects within the national parks have now been undertaken, including one for the installation of cathodic protection stations along the TAZAMA pipeline running through Mikumi National Park (case study 5), and for two lodge developments within Serengeti National Park (case studies 6 and 7). EIAs have been undertaken for the general management plans of a number of national parks (including Serengeti N.P., Tarangire N.P. and Kilimanjaro N.P.).

Box 5.5: Key Lessons from TANAPA's Experience (based on case studies)

- Where an EIA system is backed by regulatory and compliance monitoring powers, as is the case in the National Parks, EIA can contribute tangible benefits. The existence of regulatory controls backed by the powers of sanction has been cited by TANAPA as an important reason why private sector proponents have adopted constructive approaches to managing environmental concerns within the national parks. To some extent, it is the existence of such powers, rather than their use, that has served this purpose.

- Where the 'rules of the game' are clear to all parties, and stakeholders are aware of their responsibilities regarding EIA, then this can lead not only to better decisions, but can enhance working relationships between regulators (in this case TANAPA) and private sector proponents.

- Where the environmental, social and economic benefits of sound environmental management can be clearly demonstrated, then proponents are more constructive and enthusiastic about the adoption of the EIA process, even if this does result in higher initial investment costs. In the case of the national parks, the need for developments to appear 'environmentally-friendly' to tourists and tour companies provides an added incentive for environmentally sound practice.

- The application of EIA upstream of the project level, for example for national park zoning plans and for general management plans, is still at an early level of development. However, there is great potential for EIA to provide a forum for addressing many potential problems associated with the national parks, not least, access rights to key resources (land, water, fuelwood, bush meat).

Power relationships amongst stakeholders

Throughout the field assessment component of the research, it became very clear that EIA implementation (or lack of it) was often severely compromised by unequal power relations between major private sector companies and the government. Most examples occurred where the potential existed for private sector companies to generate substantial short term profits, and where environmental and economic costs were externalized and not recognized as a responsibility of the project proponent. In such cases, proponents often justified

the use of coercive or strong-arm tactics as being in the national interest for reasons of foreign exchange generation. It is notable that those expounding such paternalistic views made no mention of the profits likely to be made by the companies concerned (usually foreign-owned), or the costs to be borne by government and other stakeholders. Whilst such 'frontier approaches' to development have sometimes clearly resulted in additional costs being imposed on the proponent, these are usually offset by the scale of potential revenues that can rapidly accrue from certain types of development.

Several examples of this category of development were reviewed by this study. Perhaps the most clear-cut were the construction of lodges by one company in the core areas of several national parks in northern Tanzania. None were subjected to environmental assessment and all faced strong and broad-based opposition, including from the Tanzania National Parks Authority (TANAPA). Each of these lodges was approved and caused significant (long-term) impacts on the ecology of the national parks, including concentrating high number of visitors in areas of particular ecological and aesthetic sensitivity. Ultimately, these costs will be borne not only by the ecological communities of the parks, but also by stakeholders in and around the national parks, including the National Parks Authority (eg. through higher costs for road repair, and ecological restoration) and other tour operators. Meanwhile, most of the lodges face significant and costly problems associated with waste disposal and water supply, but these are unlikely to threaten profits significantly.

The graphite mine at Merelani provides another clear example. The revenue-earning potential of the mine invested the proponent with considerable power to wield over the government, since a proportion of these revenues would return to government through levies and taxation. In this case, the proponent made it clear that they would be unwilling to accept conditions placed on, say, decommissioning (in this case, the EIA omitted to address site restoration and decommissioning). On a number of issues, it became clear that commercial considerations prevailed over important social needs or sound environmental management. The proponent's refusal to address these issues has led to significant social conflicts, and is likely to leave the government with a considerable financial burden for decommissioning and environmental restoration.

Commercial considerations did not always provide an insurmountable barrier, especially where power relationships were influenced by donor pressure to ensure that the EIA was taken seriously. The proponents of the Kilombero Valley Hardwood Project (CDC) showed a greater commitment to implementing the findings of the EIA than was evident for any other project reviewed by this study. This was partly a response to donor pressure.

Robust EIA legislation, if carefully framed, could contribute to redressing some of the more unbalanced power relationships, especially those between large private sector proponents, and government.

6 Policy implications

The policy implications outlined below are based around two 'take home' messages arising from the study:

- EIA performance in Tanzania thus far has been extremely poor, to the extent that EIA has had only a marginal impact on decision-making and planning;

  but:

- there are indications that EIA could contribute to greater consideration of environmental and social issues in development planning and decision-making, if the policy recommendations described below are implemented with vigour. Conversely, proceeding with the status quo is likely to contribute little, and environmental assessment will continue to deliver poor results – and continue to waste substantial financial resources.

Both government and development agencies can play an important role in supporting the transition to a more effective EIA system in Tanzania. Policy recommendations for each are outlined below. Some specific recommendations and options for addressing immediate deficiencies in EIA in Tanzania are outlined in Table 6.1.

6.1 Policy recommendations for government

Policy Recommendation 1 – Introduce robust legislation and supporting guidelines to 'set the rules' for EIA in development planning.

Experience in Tanzania's national parks – where EIA policy and guidelines exist – indicate that legislation, if backed by regulatory and compliance monitoring powers, can make an important contribution to effective EIA. Supporting guidelines should take account of the deficiencies identified by this review. For example, they should provide clear and unambiguous guidance on the type and level of stakeholder involvement required, specifying when the EIA process should be initiated; emphasize the importance attached to the consideration of alternatives; emphasize that the level of stakeholder 'ownership' of the EIA process should be clearly indicated; and that compliance responsibilities are clearly defined *and* agreed. Guidelines should also define the minimum level of interaction between different stakeholders relevant to the EIA process, including local stakeholders, the EIA team and the project proponent. Guidelines should specify the importance of compiling clear and concise terms of reference.

Box 6.1: Addressing resource constraints through EIA guidelines

The lack of adequate resources made available for EIA is one of the most serious constraints to EIA performance in Tanzania. Guidelines could help to address this problem by stipulating a minimum threshold level for the *proportion of project design time* or *overall project costs* which should be devoted to environmental assessment. Evidence from this review indicates that proponents tend to ensure that environmental assessment is accorded minimal resources. Currently, it is estimated that less than 3% of project design time is made available for environmental inputs and review and less than 1% of overall project costs.

Source: Stephenson, pers comm.

Policy Recommendation 2 – Quality control mechanisms need particular emphasis.

From a government perspective, investing in the development of a robust quality control mechanism is likely to represent money well spent. Quality control at all stages, from screening and EIA commissioning to EIS review and post-completion audit, needs to be institutionalized throughout the national EIA process. To achieve this will require clear institutional mandates, well-trained and motivated staff, and a high degree of consistency and transparency. Importantly, any quality control mechanisms must ensure adequate opportunities for stakeholder involvement and, where necessary, must pro-actively support such involvement.

Policy Recommendation 3 – Create an enabling environment conducive to high quality environmental assessment.

Four key components of the enabling environment require immediate attention. Firstly, greater awareness of the role of EIA, and expectations of what is expected of proponents must accompany the formal introduction of EIA in Tanzania. Awareness activities must also address the broad spectrum of misconceptions that currently exist concerning the role of EIA. Secondly, environmental management institutions required to manage the EIA process must be accorded clear and unambiguous objectives and be adequately resourced. Thirdly, EIA capacity-building will be urgently required. Target groups of particular importance in the short- and medium-term are staff responsible for managing the national EIA process. Fourthly, domestic capacity to undertake EIA needs to be stimulated. This can be achieved by encouraging government, donor and private sector organisations to commission EIAs from domestic rather than foreign sources.

Policy Recommendation 4 – Promote stakeholder involvement in the EIA process

The restricted evidence available to this study supports the view that higher levels of stakeholder involvement leads to higher levels of influence of an EIA on the decision-making process. This is compatible with findings from elsewhere (eg. Mutemba, 1995; World Bank, 1996). Guidelines and policy should support public access to the EIA process. Hughes *et al* (in press) provide examples of how this can be achieved. For example, scoping reports should include an analysis of the different stakeholder groups that should be involved in the EIA process, and should specify how this involvement should be achieved. These considerations should be codified in the terms of reference for each specific EIA study (see table 6.1).

Quality control mechanisms should be rigorous to ensure that the appropriate stakeholders have been involved in the EIA process to the appropriate level, and that evidence is presented to indicate the way in which stakeholder inputs have been integrated into project design. A public review phase should form an essential component of Tanzania's EIA framework. The use of supplementary external review can provide a cost-effective means of tapping expertise from experts and expert institutions.

Table 6.1: Specific recommendations and options for addressing immediate EIA deficiencies in Tanzania

Specific considerations for Tanzania	*Potential options and solutions*
Shortage of EIA management and review expertise within central government	• target future EIA training on EIA process management and review; • harness sources of expertise from outside government for EIA review (eg. from academic organizations, expert groups, non governmental organizations); • conduct regular in-house training courses in EIA review and EIA process management.
Restricted financial resources for EIA management	• identify cost-effective mechanisms for EIA review; • emphasize the importance of screening and scoping processes in EIA guidelines and procedures; • ensure clear and well-scoped terms of reference are provided for each environmental assessment process; • ensure that proponents are aware of quality requirements – compile and provide clear and explicit 'quality requirement' guidelines for proponents; • ensure that reporting responsibility lies with proponents, from project registration through to compliance reporting; • consider the introduction of minimum threshold levels for time or financial resources devoted to EIA (see policy recommendations).
Absence of national standards against which environmental performance can be judged	• use internationally accepted standards, such as WHO health guidelines for air and water quality; • prioritize the development of national guidelines in association with other relevant government agencies.
Poor coordination of environmental management and policy between government departments	• consider the adoption of an inter-departmental EIA review panel; • establish clear and explicit guidelines to guide governmental departments, and to clarify departmental roles and responsibilities in the EIA process
Low levels of stakeholder participation in project design and environmental assessment processes	• establish clear guidelines and minimum standards for stakeholder participation throughout the EIA process; • ensure review process specifically addresses stakeholder involvement; • ensure compliance to adequate level of stakeholder involvement in the EIA process, especially early in the project cycle.
Widespread corruption and influence peddling	• formalize the inclusion of external and independent comments in the review process; • adopt systematic review criteria and review procedures.
Variable or poor quality of national and international EIA practitioners	• support the establishment of a self-regulating professional association of EIA practitioners; • support and facilitate training of EIA practitioners; • introduce internal EIS review processes.

6.2 Policy recommendations for development assistance agencies

Policy Recommendation 1 – Review the application and performance of donor agency environmental assessment guidelines in Tanzania

Criticism of the performance of EIA in Tanzania has been voiced by representatives from a number of development assistance agencies. These criticisms are often somewhat hypocritical. Development assistance agencies, including United Nations, multilateral and bilateral organizations frequently fail to undertake environmental assessment of projects that they support. Furthermore, when they do so, they often fall short of applying their own guidelines to an adequate standard. Quite simply, development assistance agencies fail to set the examples of good practice that they advocate in wider policy circles.

Policy Recommendation 2 – Assist Tanzania in the development of robust and high quality EIA guidelines.

Development assistance agencies, through their expertise elsewhere, are well-positioned to assist Tanzania's efforts to develop and maintain an effective EIA framework.

Policy Recommendation 3 – Promote and encourage the use of Tanzanian expertise in EIA practice.

Frequently, development assistance agencies have relied too heavily on overseas expertise, leaving too few opportunities and incentives for the development of a domestic skills base for EIA. The exclusion or marginalisation of Tanzanian institutions from EIA practice has also constrained the development of institutional learning and memory.

Policy Recommendation 4 – Plan for long-term support of environmental assessment, including during implementation and post completion phases of the project cycle.

In almost all cases reviewed by this study, development assistance agencies have avoided involvement in monitoring and post-completion audit activities. In so doing, they have failed to learn much about the environmental and social performance of the projects they support. There is a clear role for development assistance agencies to support and learn from such activities.

Policy Recommendation 5 – Ensure that EIAs are provided with adequate resources to be effective.

Most EIAs undertaken in Tanzania have not been provided with sufficient resources to undertake an effective EIA process. Development assistance agencies could address this issue by including minimum threshold levels for the proportion of overall project design or total project costs that must be made available to EIA activities. Suggested levels might be 20-25% of project design costs, or 1.5% of overall project implementation costs.

Policy Recommendation 6 – Support EIA capacity development and information-sharing

There are a number of ways this can be achieved. The most effective is likely to be the integration of 'hands-on' training with 'real life' EIA processes. In this way, EIA capacity development costs can be integrated with project development activities. Support for national and regional-level training initiatives provides another means of assisting capacity development.

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