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**ENVIRONMENTAL IMPACT ASSESSMENT AS A DEVICE FOR THE  
PROTECTION AND MANAGEMENT OF THE ENVIRONMENT: A STUDY  
IN COMPARATIVE PERSPECTIVE**

BY

AYUGI, ROSE JANET

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FULFILLMENT OF THE REQUIREMENTS  
FOR THE MASTER OF LAWS  
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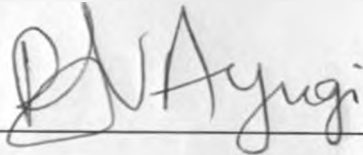
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Prof. J.B. OJWANG

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## ABBREVIATIONS

A.C	Appeal Cases
All E.R	All England Reports
C.L.R	Commonwealth Law Report
E.I.A	Environmental Impact Assessment
E.I.R	Environmental Impact Report
E.I.S	Environmental Impact Statement
I.A.C	Impact Assessment Committee
I.M.C.E	Interministerial Committee on the Environment
L.I.K	Leather Industries of Kenya
K.L.R	Kenya Law Reports
M.E.N.R	Ministry of Environment and Natural Resources
N.E.A.P	National Environment Action Plan
N.E.E.M.A	National Environmental Enhancement and Management Act
N.E.S	National Environment Secretariat
O.E.C.D	Organization for Economic Cooperation and Development
PREIRDA	Proforma for Reporting on Environmental Impacts of Development Activities
REIRDA	Request for Environmental Impact Report of Development Activities
T.A.R.D.A	Tana and Athi Rivers Development Authority
U.N.C.E.D	United Nations Conference on Environment and Development
U.N.E.P	United Nations Environment Programme

**U.S.A.I.D**                    **United States Agency for International Development**  
**W.A.B**                      **Water Apportionment Board**  
**W.C.E.D**                   **World Commission on Environment and Development**  
**W.H.O**                      **World Health Organization**  
**W.R.A**                      **Water Resources Authority**

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## ABSTRACT

This dissertation is concerned with the role of Environmental Impact Assessment as a device for the management and protection of the environment. The central theme of the thesis is how to protect and manage the environment effectively, while still taking into account the development paradigm. It is an attempt to address the question of sustainable development.

The environmental problems addressed by the thesis are those caused by industrial development, namely, air and water pollution. It is argued that, without any anticipatory mechanism, these problems will persist. It is proposed that Environmental Impact Assessment be introduced as an anticipatory approach to development planning.

Chapter 1 examines the conceptual basis for environmental management. The central concepts considered include environment, Environmental Impact Assessment (EIA), and sustainable development. The development of environmental management is considered in a historical context.

The chapter also evaluates some of the devices that can be used to manage the environment. These include the common law principles, legislation, economic devices and EIA. A detailed examination of the EIA process and its methods and benefits is

undertaken. This chapter is concluded by recommending EIA as a device for initiatives in pursuit of sustainable development.

Chapter 2 identifies the major environmental problems facing Kenya today. It then proceeds to examine environmental management policy in general, and in particular with regard to EIA. The next section identifies and describes the legal and institutional arrangements for environmental protection, with special reference to industrial pollution.

The chapter evaluates the role of the National Environment Secretariat (NES) in the promotion of EIA in Kenya. It demonstrates that the degree to which EIA is effective hinges significantly on institutional structures, and the planning process.

Case studies are used to evaluate the response of the Tana and Athi Rivers Development Authority to EIA, in its water resource development activities. These case studies are used to illustrate strategies employed by NES to legitimize EIA policies and practices. Obstacles to effective implementation of EIA under NES are examined.

The chapter has a section partly devoted to the National Environment Action Plan Process (NEAP), currently underway in Kenya. It gives a brief description of the NEAP process and considers the NEAP report and recommendations.

Chapter 3 is concerned with comparative issues on EIA. The chapter compares and contrasts the Kenyan experience with EIA implementation, with that of other countries, and proceeds to identify the manner in which and the extent to which the experiences of these other countries can be applied in the Kenyan context.

Chapter 4 brings together the main argument of the thesis and makes suggestions on the application of EIA in Kenya.



## INTRODUCTION

The need to incorporate environmental considerations in the development process is now a generally accepted principle. The question is no longer whether the principle is valid and applicable, but rather how it can be operationally incorporated in the planning and management systems.

The Brundtland Report<sup>1</sup> states that the management of the environment has become imperative if the world is to sustain itself both for the present and future generations. This means that natural resources and the ecosystems must be used in a sustainable manner. Sustainable development means meeting the needs of the present without compromising the ability of the future generations to meet their own needs.<sup>2</sup> It is meant to reduce the conflicts that cause environmental degradation, by providing a vehicle for integrating the environment and the economy.

The aim of Environmental management is to control or manage the environment. At the first level, Environmental management is concerned with ensuring that there is a balance or stability in "...the ecological circles that sustain the symbiotic relationship between the natural resources and the species that survive upon them".<sup>3</sup> Environmental management will thus provide regulatory measures to maintain and manage the ecosystem's stability.

At the second level environmental management is concerned with preventing the introduction of harmful substances that may produce adverse effects. At this level, environmental management will provide preventive measures to protect the natural resources and the ecosystems from harm. This study is concerned with one such preventive mechanism for environmental management.

There are very many measures that are being applied towards achieving environmental management. Traditional tools include economic instruments, which are tools with a fairly wide application in this field. Examples can be found in taxation, permits, standards, charges, tax incentive to reduce pollution, and financial incentives in the form of subsidies if polluters modify the environmental impact of their activities.<sup>4</sup>

However, these economic instruments are not very effective for purposes of environmental management. For example, Tax incentives were used not for pollution control, but for capital enlargement. It resulted in even more degradation and pollution. The polluter pays principle also has a permissive nature; once a polluter has paid up he can continue to pollute.<sup>5</sup>

Economic instruments are therefore not geared towards effective and efficient solutions for environmental quality management. Measures of value must be defined outside economics.

Environmental management can also be achieved through the medium of Law and more specifically Environmental Law. This is because law provides policies that can shape new ventures and preserve established rules. Since law orders a society's social relationships, it employs a powerful array of statutes, policing personnel, courts, devices such as permits, and ultimately sanctions to serve social policies. In this context law will provide for policies and legislation that would regulate and maintain the stability of the natural resources and ecosystems. Ultimately the law will employ sanctions to punish those who do not comply with the law. The Law thus establishes framework of rules and procedures to guide action to eradicate environmental problems as well as to prevent adverse changes.<sup>6</sup>

This then is the domain of Environmental law which has been defined as:

".....the ensemble of norms, statutes, treaties and administrative regulations to ensure or facilitate the rational management of the natural resources and human intervention in the management of such resources for sustainable development."<sup>7</sup>

Law has an imperative character and as such can regulate human activity which is itself the source of all environmental problems.

It has been observed that

"The interlocking nature of environment and development issues and the concomitant need for integration of environmental planning with

social and economic planning is now well recognised throughout the world. What is perhaps less widely appreciated is the opportunity offered by the formulation of comprehensive legislation and the institutional arrangement necessary to complement and enforce the same"<sup>8</sup>

Most of the devices for environmental management are regulatory in nature, that is, initiated only after the problem has occurred. Regulatory measures deal with an existing condition and seeks to control it. However, the nature of the environment requires that we should be able to anticipate rather than merely remedy environmental problems<sup>9</sup>. This means that we should lay emphasis emphasize on preventive approaches. These are approaches designed to avoid environmentally detrimental situations, or to halt the recurrence of an environmentally dangerous situation or activity.<sup>10</sup>

It is apparent that the traditional remedial approach based on a liability compensation system is frequently inapplicable to environmental problems. For example, post facto compensation often affords an inadequate relief to those whose health is permanently impaired.

Secondly, experience has shown that anticipatory preventive actions are more economical than curative actions.<sup>11</sup> Therefore, although remedial approaches are

essential weapons in the legal system, the ability to identify problems before they occur and to take precautionary measures before problems arise is more important.

Environmental Impact Assessment (hereinafter referred to as E.I.A) is an example of such environmental measures that can help to ensure environmentally sound and sustainable development. Most definitions of E.I.A emphasize the assessment and prediction of the likely effects of alternative proposals on the surrounding natural and socio-economic system and the communication of this information to decision-makers. It is typically a tool for analyzing environmental effects and a procedure for bringing this analysis to bear on decisions.<sup>12</sup>

E.I.A is seen as a practical application of environmental management because it is the ideal vehicle for integrated national development planning and coordination of environment and development planning. This broad use of E.I.A is increasingly recognized as central to effective environmental management.<sup>13</sup>

E.I.A is now well established as either an administrative or legal process around the world. In nations such as the U.S.A, Australia, Canada and those of the European communities, we find well developed EIA processes. Several other countries have established EIA procedures, usually for major new projects. These include Indonesia, Japan, Thailand, New Zealand, Nigeria and the Philippines, to mention but a few. Development agencies, including the World Bank, have adopted procedures and guidelines for

environmental planning and assessment. In some cases they require the EIA before funding project. The United Nations Environmental Programme (UNEP), the United Nations Development Programme (UNDP) and the World Health Organization (W.H.O.) also concern themselves with EIA through scientific research, training and the development of guidelines.<sup>14</sup>

Thus some fifty countries today have EIA procedures. The governments of these countries are re-tooling their decision-making to encourage ecologically sound development. In the words of Lyton Caldwell,

‘The EIA process institutionalizes patience, caution and looking before leaping. Few, if any, would be their personal affairs in the manner that government decision makers formerly acted in relation to the environment.....’<sup>15</sup>

The aim of this study is to examine the role that EIA, embodied in framework legislation, can play in environmental management and protection in Kenya. The approach to be adopted in this study is comparative.

The comparative approach will be used to identify and understand the experience of establishing and implementing EIA in relation to development projects in other countries;

secondly, to identify the major legal, procedural and institutional problems encountered in the selected countries in the implementation of EIA; and finally, to present practical and realistic recommendations to help those involved in the implementation of environmental management in general, and EIA in particular, in Kenya.

At the end of the proposed study we hope to reach several conclusions:-

Firstly, we intend to show that the role that EIA can play in the protection and management of the environment is critical; secondly, we intend to illustrate that although there are other devices that can be used to protect the environment they are not as effective as EIA; thirdly, we intend to show that only EIA has the capacity to ensure environmentally sound and sustainable development. This is because EIA analyses environmental effects and brings this analysis to bear upon decisions. It will be argued that only a legislated EIA can be effective for purposes of environmental management. This is because the law will lend it the credibility and the power it requires. Where EIA exists in a non-legislative form it is not effective as there is no action-forcing power and therefore compliance is largely discretionary. We intend to illustrate the explicit goals of environmental protection and a legal mandate of EIA does not necessarily affirm successful implementation of EIA. The degree to which the EIA is effective hinges significantly on the institutional structure and the manner in which the existing planning process respond to EIA and finally, we intend to recommend although to some degree public policies cannot be exported from one country to another without consideration for different political, economic and

administrative frameworks, there are ways in which problems policies and implementation are similar.

Both primary and secondary data was collected to answer a number of questions including:

1. What is Kenya's environmental policy in general and with regards to EIA in particular?
2. To what extent is the existing legal and institutional framework adequate and effective for purposes of implementing EIA?
3. How has EIA been implemented in Kenya and to what extent does the practice conform with the requirements?
4. What has been the experience of other countries, both developed and developing in the implementation of EIA?
5. What lessons can Kenya learn from these experiences?
6. How can the legal, procedural and institutional framework be reformed to ameliorate the existing position, to ensure better realisation of the goals of environmental management, and effective implementation?



## **CHAPTER ONE**

### **1.0 INTRODUCTION**

There are three concepts that are central to this study. These are: **Environment, Environmental management and protection, and Environmental Impact Assessment (EIA).**

The initial task will be to set out working definitions of these concepts. The nexus between these concepts and development, as well as sustainable development, will also be explored. In this chapter, a brief history of the development of Environmental management and of the devices employed in environmental management, will be given. After critically analyzing the existing devices, the study will then focus on EIA, as the most central and most effective device for environmental management. To buttress this contention, we will proceed to set out the organizational structure and consider the practical advantages of EIA. We hope the discussion in this chapter will test and prove effectively the first three hypotheses with which this study begins. These hypotheses are annexed to the thesis (**Annex I**).

## **1.1 THE CONCEPTUAL BASIS FOR ENVIRONMENTAL MANAGEMENT: DEFINITION OF THE CENTRAL CONCEPTS**

### **1.1.1 DEFINITION OF ENVIRONMENT**

One of the initial conceptual questions that must be answered is what is to be included in or excluded from the term "environment". The boundary placed on the term by some biological scientists, restricting it to abiotic and biotic interactions (biophysical ecosystems and interactions) stems from the belief that human cultural influences are highly complex and confusing, and they should therefore, be studied separately from the natural processes.<sup>1</sup>

This view is not supported by many practitioners of environmental management. Some have evidence to the effect that the impact of a proposed project, and the effect of a proposed environmental policy in an official plan will sooner or later focus on socio-economic and related concerns. For these reasons, then the only acceptable definition of environment, on pragmatic grounds, must include human institutions and activities as they influence and are influenced by bio-physical processes.<sup>2</sup>

Operational environmental assessment procedures in some cases (like those applied by the Canadian Federal Government), follow the biophysical mode, while others (like those

found in the United States and in Ontario, Canada) include human influences in their operational definitions.<sup>3</sup> Later in the chapter we will analyze some of the EIA methodologies, and highlight the different approaches used.

In this study we define the environment as the totality of all those physical, chemical, biological and socio-economic factors that impinge on an individual, a population and a community. These factors include human ecology, public and occupational health, safety, pollution of the air, water, land, waste reduction, management of unique habitats, aesthetic and cultural preservation.<sup>4</sup> In this sense it is not possible to draw lines of separation between the resources which a development project seeks to harness on the one hand, and the environment on the other hand. The environment is the integral natural-resources system, and it includes man, and man's manipulation of this system.

### **1.1.2 DEVELOPMENT/SUSTAINABLE DEVELOPMENT**

Development has meant different things to different proponents. The most popular conceptualization particularly at the national level, is one that defines development in terms of the Gross National Product.<sup>5</sup>

This approach has been criticized on the basis that it gives undue priority in the development process to increased output, while ignoring aspects of human welfare.<sup>6</sup> The

existing shift of emphasis is therefore a definition of development that is concerned, not with national income or capital formation per se, but with a more comprehensive and more meaningful approach which takes into consideration the quality of life.

We will take development to mean the process by which a country provides for its entire population all the basic needs of life and maintains the mechanisms and infrastructures which perpetuate the productive base of that country.<sup>7</sup> Development is a dynamic process. The nexus between environment and development lies in the fact that in order for development to sustain and perpetuate itself it has to utilize natural resources. These natural resources are part of the environment. However, development activities to meet human needs must proceed within acceptable environmental limits. A trade-off between development and environmental management and protection is the only way through which the objective of sustainable development can be achieved. Sustainable development means meeting the needs of the present without compromising the ability of the future generations to meet their own needs.<sup>8</sup> Sustainable development is meant to reduce the conflicts that cause environmental degradation, by providing a vehicle for integrating the environment and the economy.

The concept of sustainable development is closely related to the two major problems faced by most, if not all, countries on the planet. They are: firstly, widespread and increasing poverty and, secondly, the continuing and dramatic degradation of the natural

environment. Seeking sustainability entails re-designing society so that human activities do not have long-term negative impacts on the environment.<sup>9</sup>

The solution to these problems requires a reversal in the deterioration of natural resources reflected by such phenomena as the degradation of land, loss of species, climatic changes and increased cancer rates (these being only a few symptoms of widespread ecological distress). Without such a reversal, the very survival of future generations on our planet, and not just human health, will hang in the balance.

An attempt to establish a trade-off between development and quality of life has led to the emerging concept of eco-development. This is a synonym for the phrase ecologically sound development, and emphasizes the need for harmonizing economic, social and environmental concerns into the process of development.<sup>10</sup> This is the approach adopted in this study.

### **1.1.3 ENVIRONMENTAL MANAGEMENT AND PROTECTION**

The recognition and reflection of environmental considerations at every stage of the development process is the practical essence of environmental management. Environmental management has been defined thus:

"The control or management of the environment means measures taken to balance the natural resources. These measures may be of two kinds; one aspect may be to ensure balanced utilization so as to prevent over-exploitation, or to restore those that have been utilized to strenuous levels. The other aspect may be measures taken to prevent (the)...introduction of any substances or energy which might immediately or in the long run, cause deleterious consequences to the natural resources".<sup>11</sup>

In other words, environmental management includes the measures taken by the State in order to regulate the use and development of natural resources, and secondly to anticipate and control the environmentally undesirable consequences that arise from the development process.<sup>12</sup>

Environmental management does not denote that the environment should be managed.

It is the activities which impact on the environment that have to be managed and kept within tolerable constraints. These thresholds cannot and should not be ignored as they are imposed by the environment itself. The critical factor is to find a way of meeting basic human needs within the potential and constraints of the environment.

Environmental management introduces three new dimensions into traditional socio-economic development.<sup>13</sup> Firstly, it broadens the scope of the concept to include

development and enhancement of environmental quality. Secondly, it extends the concept of time to include sustainable long-term feasibility. This is contrary to traditional economic thought which is basically concerned with short-term gains and objectives, for example, three year or five year plans. This approach does not take into consideration the cumulative long-term effect of such development. Thirdly, it evaluates the costs to society and the environment in achieving a balance between the first two.<sup>14</sup>

Arising from the definition we have taken in this study of environment and development, we feel that there ought to be a harmonious interface between environmental management and development.

#### **1.1.4 ENVIRONMENTAL IMPACT ASSESSMENT (EIA)**

EIA can be and has been defined in various ways, depending on the national context in which it is applied. Almost no two countries have defined it in exactly the same way.<sup>15</sup> Most definitions of EIA, however, emphasize the assessment and prediction of the likely effects of alternative proposals on the surrounding natural and socio-economic system, and the communication of this information to decision makers.<sup>16</sup>

EIA is recognized as a generic term, to describe the process by which an activity is assessed for its environmental effects, prior to making a decision on its implementation.

Viewing EIA in this way (i.e, as a process) means that it should not be used interchangeably, although it often is, with the term EIS which stands for an Environmental Impact Statement. An EIS is a document which contains an analysis of the information gathered through the carrying out of an EIA. As such EIS is a single, albeit often the most visible, outcome in the more far-reaching EIA process.<sup>17</sup>

EIA has been characterized as both a "science" and an "art". EIA as a "science" or a planning tool has to do with the methodologies and techniques for identifying, predicting and evaluating the environmental effects associated with particular development actions. EIA as an "art", or a procedure for decision-making, has to do with those measures taken to ensure that the environmental analysis of such actions influences the decision-making process.<sup>18</sup>

Both characterizations reflect an understanding of EIA as an "anticipate-and prevent" strategy for environmental protection, and as such, treat EIA as going beyond the first generation of environmental policy instruments which were aimed at "reacting to and curing" environmental problems.<sup>19</sup> EIA is an example of such environmental measures that can help to ensure environmentally sound and sustainable development.



## 1.2 ENVIRONMENTAL MANAGEMENT IN HISTORICAL CONTEXT

### 1.2.1 BACKGROUND

During the past three decades there has been a general realization that the different physical components of the environment have limited assimilative and carrying capacities, and that measures must be instituted to safeguard the environment and the quality of life.<sup>20</sup> More important has been the realization that the natural environmental resources of water, soil, plant and animal life constitute the natural capital upon which man depends, to satisfy his needs and achieve his development aspirations. This can only be achieved through a delicate equilibrium between man and nature.<sup>21</sup>

At this point in history, the international community is concerned not only with the first-generation issues but also with the second generation environmental issues.<sup>22</sup> Unfortunately, despite this recognition there is still a dilemma facing all nations of the world and especially those communities that are still in the process of development. The rate at which natural resources are being consumed and wastes produced is already immense; yet poor countries still lack, and desperately need, industrialization and economic development.<sup>23</sup>

Addressing himself to this dilemma, Robert McNamara stated that:

"The question is not whether there should be continued economic growth. There must be. Nor is the question whether the impact on environment must be respected. It has to be. Nor least of all - it is a question of whether these two considerations are interlocked. They are. The resolution of the dilemma revolves clearly not about whether, but about **how**".<sup>24</sup>

Without doubt, how this dilemma is resolved is likely to dictate our planet's prospects for the coming century. The need to incorporate environmental consideration in the development process is a generally accepted principle. The question is no longer whether the principle is valid and applicable, but rather how it can be operationally incorporated in the planning and management system.

### **1.2.2. INTERNATIONAL INITIATIVES IN ENVIRONMENTAL PROTECTION**

The Founex Symposium is a useful starting point for two reasons: first, it will aid us in understanding the relationship between the environment and economic development, second, it will assist us to consider the relationship between the rich and poor countries with regard to the environment.

The pre-occupation of the developed world with environmental protection was greeted with considerable skepticism by many Third World Countries, who feared that the instrumental expressions of that pre-occupation would affect them adversely in the fields of trade and development. It became apparent to the planners of the 1972, **UN Conference on the Human Environment** that this would be a sensitive issue, and a panel was convened to grapple with this fundamental problem. It is this panel that subsequently prepared the Founex Report.<sup>25</sup>

In 1971, at Founex, in Switzerland, an uneasy compromise was struck that successfully brought the developing countries into the international environmental movement. The occasion was the meeting of intellectuals from the industrial North and the developing South, in the preparations for the then forthcoming Stockholm, UN Conference on the Human Environment. Its broad purpose was to convince the developing countries that environmental issues were indeed global, and that the concern for environmental quality was not exclusively the domain of the rich, but was of direct and immediate importance to developing countries as well.<sup>26</sup>

The Founex Report<sup>27</sup> is considered to be the first comprehensive document on development and environment issues. Its primary contribution was to broaden the definition of environmental concerns to include a variety of development related problems.<sup>28</sup> However, the progress along the road to Stockholm was neither straight-

forward nor evenly paced. At the beginning of the 20th Century, neither the environment, as an integrative ecological concept, nor the biosphere, as the planetary life-support system was an object of public international concern. International efforts, in so far as they focused upon resource conservation, did so largely for economic and strategic reasons. This meant that environmental policy had to be legitimized at the national level. Governments had to be persuaded to take cognisance of environmental issues as regular and official concerns.<sup>29</sup>

This was not an easy task. The vast majority of the world and society, faced with immediate problems created by poverty and population growth, cannot but be concerned about their economic development. The goal of all developing countries has been to achieve a high rate of annual growth in Gross National Product, at any cost. Developing countries generally see, the development imperative as overriding all else.<sup>30</sup> Brazil's Planning Minister even observed that he hoped it was the Third World's turn to pollute.<sup>31</sup> Evidently, the developing countries saw the concern for the environment as a ploy by the rich nations to prevent the poorer nations from industrializing. Environment and development were seen as conflicting, and it was feared that a commitment to the environment was likely to detract from the commitment to development.<sup>32</sup>

The developing countries could not have founded the above opinion on good reason. It is pertinent to note that there is a "pollution of affluence" and a "pollution of poverty".

The Stockholm Conference<sup>33</sup> recognized this distinction, and declared that while "in the industrialized countries the environmental problem were generally related to industrialization and technological development", in the poor countries "the environmental problems are caused by underdevelopment".<sup>34</sup> The Founex Report<sup>35</sup> had also stated that in developing countries poverty was the greatest source of pollution. The quality of life, and life itself are threatened by poor sanitation, poor water and nutrition, and by disease. Development, no doubt, becomes essential in order to cure the Third World's environmental problems.

The then Prime Minister of India, Indira Gandhi, depicted the developing countries' dilemma succinctly when she said that although the Third World did not want to impoverish the environment any further, they ~~cannot~~ <sup>could not</sup> ignore the grim poverty of a large number of people. She added:

"When they themselves feel deprived, how can we urge the preservation of animals?... Environment cannot be improved in conditions of poverty. Nor can poverty be eradicated without the use of science and technology".<sup>36</sup>

Another reason that can explain the reluctance of the developing countries to embrace environmental management wholesale can be found in the inherent nature of environmental degradation. The deleterious effects of development on the environment

are in most cases slow, and can sometimes take years to manifest themselves. It is thus not easy to convince those concerned that their activities have a negative impacts on the environment as these impact are not felt immediately. On the other hand economic growth is usually programmed over shorter periods and its effects can be immediate. Similarly, the effects of lack of development are also immediately and clearly apparent.<sup>37</sup> This has led many countries to be more concerned about their short-term requirements, than about the long-term possible effects of development.

It has been said that the most important confusion surrounding environmental quality and economic development in the Third World arise from the apparent simplicity of the Founex re-definition. If the environmental problems of developing countries were, at their core, poverty-related the solution would be economic growth. Environmental concerns would then be incidental to the main task of development.<sup>38</sup> However, growth itself will encounter environmental constraints.

In other words, despite the Founex re-definition fundamental questions still remained unanswered. It was necessary to determine at least three things: firstly, whether economic needs were so compelling to the developing countries that these countries could afford to pay some price (in a degraded environment) for material benefits, secondly, whether there was a basic incompatibility between sound development and sound

environmental policies; and finally, whether sustained economic growth demanded the conservation of environmental resources as the ultimate base for productive activity.

It is our contention that developing countries cannot ignore environmental issues. Any assumption that environmental concerns can be set aside until a later stage of development may be extremely dangerous. Trying to correct environmental degradation after it has occurred will be far more expensive than taking preventive measures. It is essential, therefore, to build such measures into the process of planning and implementing development programmes, from the very beginning.<sup>39</sup>

Since Stockholm, many countries have gradually come to view environmental concerns, not in isolation, but in relation to social and economic development. It is fair to say that developed and developing countries are now in general agreement on the proposition that environmental and developmental goals need not be in conflict, and that indeed environmental management provides the basis for sustainable economic and social development.<sup>40</sup>

The notable results of the 1972 Stockholm Conference were the establishment of the **United Nations Environment Programme (UNEP)** and the adoption of an Action Plan for the Human Environment. In 1985, the **World Commission on Environment and Development (WCED)** was charged with the responsibility of formulating "A Global

Agenda for Change, by the General Assembly of the United Nations. The WCED was requested to propose long-term environmental strategies for achieving sustainable development by the year 2000 and beyond.<sup>41</sup> It was this commission (also known as the Brundtland Commission, eponymously after its chairperson) that brought into focus, once again, the issues concerning environmental survival, under the landmark concept of "sustainable development".

This report <sup>42</sup> recognized the critical link between poverty and environmental problems; it noted that poverty was a major cause and effect of global environmental problems. <sup>42A</sup> The report further stated that it would be futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and inequality. <sup>42B</sup> The commission recommended that sustainable development objectives should be incorporated in the terms of reference for those dealing with economic policy and planning. <sup>42C</sup>

In 1992, **the United Nations Conference on Environment and Development (UNCED)**, popularly known as the "Earth Summit", was held in Rio de Janeiro, Brazil. The purpose of the Conference was to take stock of what needed to be done on the basis of past lessons, and in the light of new challenges, with regard to problems of environment and development. It had become apparent that although the linkage between environment and development was recognized as far back as the 1972 Stockholm Conference, "all too little



progress (has been) made towards actual integration of environmental dimension into development policies and practices".<sup>43</sup>

The preparatory committee of UNCED was charged with the task of establishing the necessary modalities for integrating environmental dimensions more fully into development policies. This led to the formulation of "Agenda 21", Chapter 8 of which is concerned with integrating environment and development into decision-making.<sup>44</sup>

Dr. A.O. Adede commented that although the Earth Summit would be about environment and development, the primary emphasis would be on development and economic change, and that

" ... it is through the development process that we carry out activities with impact upon the environment. It is also through fundamental changes of development processes that we can effect the positive synthesis between the environment and development that will produce environmental things. The challenge is that we have to make the necessary efforts towards the transition to sustainable development".<sup>45</sup>

The 1992 UN Conference on Environment and Development marked a milestone after several decades of debate over the global problems facing the environment. It resulted

in a global plan of action, Agenda 21, which was endorsed by over 179 countries. Agenda 21 emphasizes the importance of environmentally sound technologies, education, public awareness and training. The plan also emphasizes "capacity building", which refers to cooperation with developing countries that encourages them to develop human and organizational resources to plan and implement sustainable development. <sup>45A</sup>

The Earth Summit became the global focus for efforts to define the actions necessary to achieve the goals of sustainability. The **Rio Conference** reiterated many of the goals started in the UNCED report. What was particularly discouraging to many was the lack of concrete financial commitments to many of the ideas that were promoted by the participants. <sup>45B</sup>

Regardless of the unfulfilled expectations, the key products of UNCED - Agenda 21 and the Conventions on Climate Change and Biological Diversity - will influence how governments, businesses and communities operate in the coming decades. Agenda 21 addresses the likely consequences of unsustainable patterns of use of environmental resources, and provides suggestions for alternative action. Perhaps the most important message to emerge from the Rio Conference is that ethical behaviour with respect to sustainability is not optional. Urgent action needs to be taken if the goals of a sustainable future are to be realized. <sup>45C</sup>

### 1.3

## **DEVICES FOR ENVIRONMENTAL MANAGEMENT**

### **1.3.1 ECONOMIC DEVICES**

Since World War II, the dominant social and economic institution which both affected and implemented humankind's choices was the market. <sup>45D</sup> In this scenario environmental degradation is seen as a type of market imperfection which society as a whole has to bear. This is what Coase <sup>46</sup> called social cost, which is the price that society as a whole has to pay for the benefits derived from hazardous activities. However, it soon became clear that this view of the common burden of mankind posed a real danger to sustainable existence, and some answer had to be found.<sup>47</sup>

Economic instruments are being increasingly introduced as a device for environmental management. There is a consensus that in many cases economic instruments can be a powerful complement to direct regulation. These economic instruments can be defined as instruments that affect costs and benefits of alternative actions open to economic agents, with the effect of influencing behaviour in a way that is favourable to the environment.<sup>48</sup>

Typically, economic instruments involve either a financial transfer between polluters and the community (for example, various taxes and charges, financial assistance and user charges), or the actual creation of new markets (for example, marketable permits).<sup>49</sup>

Several major economic instruments for environmental policy have been conceived.

These are:

- a) **Charges** such as effluent charges and product charges.
- b) **Enforcement incentives** such as non-compliance fees and performance bonds.
- c) **Subsidies**; economic efficiency can be achieved only if heavy polluters are charged more than low polluters.

However this calls for a scale of instruments based on detailed monitoring. The administrative costs of enforcing such a system can be high even in a developed country.<sup>50</sup>

The discussion of the economic instruments thus far outlined is based on relatively few experiences in developed market economies. A general conclusion from these experiences is that, if, in spite of the sophisticated institutions of these economies, economic instruments play only a modest role, they cannot be expected to do better in the

developing countries.<sup>50A</sup> Economic instruments will definitely have a big role to play in the future regarding the relationship between poverty, environment and development.

More specifically, the problem of continuing economic degradation of the natural environment cannot be solved by the present free operating market mechanism for a number of reasons.<sup>50B</sup> Firstly, one basic objective of economic instruments is to ensure appropriate pricing of environmental resources in order to promote efficient use and allocation of these resources. However, environmental goods and services are generally not marketable.

Secondly, the free market mechanism does not address the cost of depreciation and the use of such basic natural resources as air, water, or soil. It will also not provide the answer to how much is enough. The reason is simple. Economists, in general, do not recognize that there are limits to economic growth but, instead, believe it can go on forever. Advocates of sustainability agree that there are finite limits to what the natural environment can take; and these limits cannot be continually violated without a threat to our survival; and that science or technology can never provide effective means of permitting the extension of these limits indefinitely.<sup>50C</sup>

The **polluter pays principle (PPP)** is another attempt to merge environmental and economic policy. This principle has been widely accepted in market, Organisation for

Economic Cooperation and Development (OECD), Australia, Canada, the United Kingdom, Japan and Germany.<sup>50D</sup>

In its broadest meaning, the principle means that the polluter pays for all environmental costs he creates by his action. In economic terms, this means all external costs caused by pollution are internalized to the polluter. The effect pollution has on resources, for the future generation, as well as the present, are considered and the polluter is assessed for the complex of direct and indirect effects the pollution might have.<sup>50E</sup>

Whatever the scheme for assessing external costs, the expense in most economies is passed on to the consuming public, thus in many circles, the PPP has acquired the "consumer pays" tag. Furthermore, there are many definitional and interpretational problems inherent in this concept. It is never really clear what the costs are, who is to pay and what is in actuality being paid for. Moreover, many countries recognized that in practice, the polluter cannot bear all the pollution abatement costs, and that it is not feasible to impose all environmental costs on producers.<sup>50F</sup>

Despite these shortcomings, the PPP embodies some useful ideas for environmental control efforts. The principle needs to be refined further so that it does not merely amount to "consumer pays principle".

Another economic management tool that has become popular lately is **Environmental Auditing**, which has been defined as:

"A management tool comprising a systematic documented periodic and objective evaluation of how well environmental organization management and equipment are performing with the aim of helping safeguard the environment..."<sup>51</sup>

Environmental audits have the primary benefits of ensuring cost effective compliance with law, regulations, standards and company policies. Unfortunately, environmental audits are limited in appeal because they are normally carried out by large companies. This raises the question of the applicability of audits in small and medium sized companies, and especially in developing countries. Secondly, audit is basically an internal management tool and does not apply to national policy level decision-making. This weakens its use in environmental matters, as the environment is more in the public realm and therefore requires national-level approaches. Thirdly, auditing is more concerned with assessing practices or evaluation, rather than preventing environmental degradation.<sup>52</sup> From the above account, we may conclude that environmental audits are limited as tools for environmental management. Audits fall short of the definition (set out earlier) of environmental management.

### 1.3.2 LAW

Environmental management can also be achieved through the medium of **Law** and more specifically Environmental Law. Law is not the only device or tool that has been used for environmental management. There are many other methods in existence, for example, the already mentioned economic devices. But the law is possessed of certain inherent advantages which are likely to render it more successful than other devices in the task of management.<sup>53</sup> Law is, in many cases, the best way of implementing policy. Law validates broad based policies, and thereby sustains the chosen options through its legitimating effect. It does this by creating the machinery, or procedures to effect the policy choices.<sup>54</sup> This means law will employ appropriate statutes, policing personnel, courts and devices such as permits, and ultimately sanctions to serve social policies.

Furthermore, since the law can sustain a policy environment which has the effect of establishing a particular line of social orientation, it is the state's ultimate device for fulfilling and conveying policy.<sup>55</sup> Robert Seidman illustrates this point clearly when he says"

"Law enters the process of development in two ways. First, today the State usually has the burden of trying purposively to induce social change. Only the State ordinarily has sufficient capacity, resources or legitimacy to undertake such



a formidable task. Typically, the state tries to induce development by changing the rules defining repetitive patterns of behaviour, and by directing its officials to act in new ways, that is, by changing the legal order. Demands for development therefore appear as demands for new law ..."<sup>56</sup>

In this context, law will provide policies and legislation that will regulate and maintain the stability of the natural resources and ecosystems. Ultimately the law will employ sanctions to punish those who do not comply with it. The law will establish a framework of rules and procedures designed to guide action for resolving environmental problems, as well as for preventing adverse changes.<sup>57</sup>

This then is the domain of Environmental Law which has been defined as:

"... the ensemble of norms,...statutes, treaties and administrative regulations to ensure or to facilitate the rational management of natural resources and human intervention in the management of such resources for sustainable development."<sup>58</sup>

This definition embodies two components, namely, the capacity to ensure, and to facilitate. Those laws which "ensure" require citizens to perform certain actions; failure to do so would lead to certain sanctions. The second component encompasses management oriented measures that facilitate the prevention of any harmful effects on the

environment.<sup>59</sup> The law can therefore institute anticipatory mechanisms for the assessment and control of the impact of development projects and programmes on the environment. Since law has an imperative character, it can regulate human activity, which is itself the source of all environmental problems.

However, to be effective Environmental Law should not be understood as just another new system of rules and agencies. Rather, it must be viewed as part of the eco-management, "...a comprehensive process of resource management informed by eco-systematic knowledge and progressively integrated with economic development planning..."<sup>60</sup> Eco-management has been defined as management of the human environment according to ecological principles.<sup>61</sup>

Environmental Law is not yet a fully developed discipline, and it borrows a lot of principles from the common law, while a large chunk is now embodied in statutes as well as international agreements.<sup>62</sup> The next section will be devoted to a detailed analysis of the common law, which has been the primary basis of environmental conflict resolution.

#### **1.4            THE COMMON LAW AND ENVIRONMENTAL MANAGEMENT**

**The common Law** is the body of principles built up since the 12th century from the precedents of the King's court.<sup>63</sup> This branch of law is significant in Kenya's legal system

by virtue of the Judicature Act, <sup>64</sup> section 3, which enjoins the Kenyan courts to apply it in cases where there is no written law on the matter.

For centuries, common law courts have been confronted with disputes which could immediately be identified as environmental cases. We therefore find that even five centuries ago, courts granted remedies to plaintiffs who could sufficiently demonstrate the damage they suffered when the defendant caused deterioration of the environmental quality. We should however add here that this by no means meant that those courts **consciously** appreciated ecological considerations. These courts simply used the general common law concepts with its many theories that could also coincidentally to redress cases on environment related issues.<sup>65</sup>

At common law, **Contract** and **Tort** provided the main principles and rules of conflict resolution. Contracts are based on the Latin maxim **pacta sunt servanda**, which means agreements must be kept. <sup>66</sup> This contractual relationship was purely **inter partes** and third parties would have no rights under the contract. When applied to environmental problems it meant that only where there was a contractual duty towards one party to use the property without causing environmental harm, would a cause arise in event of breach.<sup>67</sup>

However, contract has some unavoidable limiting factors that reduce its usefulness. This right attaches only to parties to the contract. Where an injured party decides to sit on his rights, the public can have no redress whatsoever. The effect would be a continuation of the damage. We can use EIA to illustrate this limitation. Where a contract entails an EIA naturally under the common law its administration and monitoring would be a private affair. Moreover, it is quite unlikely that parties to land purchase contracts would attach much importance to EIA as an element in sales transactions. <sup>68</sup>

The part of the common law most relevant to environmental management is the law of Tort, which offers a slightly wider scope for resolving environmental questions. A tort is a civil wrong. The injured party is entitled to claim damages for his loss, or seek an injunction for the discontinuance or prevention of the wrong. <sup>69</sup>

There are many specific torts but only four are directly relevant to the control of environmental damage, and therefore relevant in this study. These are: negligence, trespass, nuisance and strict liability. We will discuss briefly the relevance and application of these principles in the field of environmental management.

#### **1.4.1 NEGLIGENCE**

This is the breach of a legal duty not to damage the person or property of another. The damage must be a reasonably foreseeable consequence of a careless omission and the

plaintiff must prove that the defendant owed him/her a duty, breached that duty and caused damage to the plaintiff, as a result of that <sup>breach</sup> breach.<sup>71</sup> The basic legal approach taken by courts in such instances can be illustrated by The American Cyanamid & Company V MG Sparto.<sup>71</sup> The appellant company had a plant located upstream from the respondent's property. Discharges from the appellant's plant harmed the respondent's crops when they used the river water for irrigation purposes. The 5th circuit court of Appeals upheld the award of damages against the appellant, on a finding that the discharge of the pollutants and the failure to warn the respondents of potential harm to themselves constituted negligence, and that such negligence was the proximate cause of the damage to the respondent's property.

Unfortunately, there are two main difficulties that will be encountered in using the negligence action. Firstly, there is the issue of proof of the causal connection between the pollution and the harm. A revealing private action from the standpoint of causation is Haggv V Allied Chemical and Dye Corporation.<sup>72</sup> where the plaintiff sought recovery for damage allegedly suffered to her larynx from sulphuric acid compounds negligently emitted from the defendant's plant. The defendant - polluter admitted negligence in emitting the pollutants but asserted, as a matter of law, that the evidence was insufficient to permit the jury to find a causal connection between the emission and the plaintiff's condition. Thus proof of causation becomes a major hurdle to a plaintiff

seeking recovery for environmental torts. This proof will usually involve a series of chemical experts to establish each link in the chain of causation.

The second problem relates to the establishment of the standard of care, a departure from which will constitute negligence. It is a very difficult question which the courts must resolve in order to decide on environmental matters based on negligence.

Thirdly, negligence does not extend to intangible environmental damage and is typically applied only where conduct results in a specific event rather than a 'state of affairs'.<sup>73</sup> This last factor limits the usefulness of negligence as far as environmental protection is concerned, because there is frequently a delay between the act of pollution and the realization of its effects. It may therefore, for example, be decades between the disposal of hazardous waste in a landfill, and the contamination of ground water in nearby wells.

#### **1.4.2 TRESPASS**

Trespass, the earliest recognized tort, is a direct and unpermitted intrusion upon a possessory interest in land. Many instances of environmental degradation result from trespassory invasions of property interest. Consequently this concept is sometimes useful in environmental litigation. Depositing rubbish on the land of another will constitute a trespass. Some authorities suggest that damage to land caused by fumes from a

neighbouring factory does not constitute trespass.<sup>74</sup> However, authorities from the USA, suggest that such an action can constitute trespass.<sup>75</sup>

Although the trespass doctrine is useful, it is quite problematic. It is quite frequently joined with nuisance by judges, in writing their opinions, and by plaintiffs when phrasing their cause of action. This usually makes it impossible to separate the two theories sufficiently so as to evaluate the usefulness of the trespass doctrine to environmentalists, without the accompanying nuisance aspect of the case.<sup>76</sup>

### 1.4.3 NUISANCE

The law of nuisance offers a better scope for environmental protection. It has been used with the greatest frequency. As early as 1611, the English Court of Kings Bench granted damages and an injunction to plaintiffs whose air had been "infected and corrupted" by the odours from defendant's hog sty.<sup>77</sup> The interference with another persons rights of use or enjoyment is dealt with by the law of nuisance.

Two classes of nuisance have been recognized: public and private. **Public nuisance** arises when a class of the population is obstructed, inconvenienced or damaged in the exercise of its rights. A private nuisance is an act which interferes with a person's use or enjoyment of his land. It is a tort and the prime instrument for enforcing private rights

in environmental issues.<sup>78</sup> The doctrine of private nuisance was applied in the case of **Charlesworth v Rawji**<sup>79</sup> where the court granted an injunction to restrain the defendants from permitting the continuance of the perpetual hammering of an anvil by their tenant. The plaintiff had alleged that the noise had prevented him from properly carrying on with his job as a developer, as well as restricting his enjoyment of ordinary sleep which is every man's entitlement.

Public nuisance is a crime indictable at common law, but an action for an injunction may also be brought by the Attorney-General on behalf of the public. Alternatively, two or more persons may bring the suit after obtaining the Attorney-General's written consent. Unfortunately, there is no record of the Attorney-General bringing or consenting to such an action in Kenya. The reason for this may be the history of political development in Kenya, which until recently, was a one-party state. Moving away from this political culture may take some time. Furthermore, many African governments are faced with the dilemma of choosing between the apparent benefits of development and those of environmental protection. Government policy will thus influence any Attorney-General's decision on whether to act or not. Thus frequently public nuisance in the form of pollution, fumes and garbage go unabated.<sup>80</sup>

The third avenue open to an individual to bring action under public nuisance is where he has suffered special damage over and above that caused to the public at large. In



practice, plaintiffs have found it remarkably difficult to establish that they have suffered special damage.<sup>81</sup> This creates a difficulty as one may not be able to establish special injury very easily. Furthermore, there may be a general unwillingness, even fear, by people to take action against enterprises.

The penal Code<sup>82</sup> covers the offence of nuisance, which is committed where a person does an unlawful act or omits to discharge a legal duty, thereby causing any common injury, or danger, or annoyance or obstruction or inconvenience to common rights. The offender is liable to imprisonment for one year.

The nuisance doctrine also has some restrictions, as regards a private action based on a common nuisance. The damage suffered, over and above that suffered by the public, has to be different in kind and not just in degree. This means that the injury has to be different in kind from that to the public generally.<sup>83</sup> The classical application of this limitation is found in the case of **Banquet v Hankensack Water Company**<sup>84</sup>, in which a riparian land owner along the Hankensack river in England was denied recovery against the defendant for the fouling of the river, on the ground that the rights allegedly interfered with were 'rights of a purely public character'. **The Banquet case** is a prime example of the strict formalism in common law classification, and of its effect upon the resolution of particular controversies.<sup>85</sup>

In an American case Leo v General Electric Co. <sup>86</sup> the court granted commercial fishermen standing to pursue a public nuisance claim. They had brought an action claiming to be especially aggrieved by the defendants' discharge of chemicals into the Hudson river. The discharge had polluted the river and consequently led to a ban on the sale and fishing of striped bass found in the river. The striped bass not only accounted for a substantial part of the commercial fishermen's income but was also used for recreational purposes.

The court stated:

"... If there is some injury peculiar to a plaintiff, a private action premised on a public nuisance may be maintained ... Allegations of pecuniary injury may be sufficient to satisfy the peculiar test ... so long as the injuries involved are not common to the entire community exercising the same public right.."<sup>87</sup>

Further restriction on the usefulness of nuisance actions are found in such doctrines as "coming to the nuisance" which limits the right of late-comers to a nuisance. Although this doctrine has seldom been the deciding factor, it frequently is one of the reasons given for denying recovery. <sup>88</sup> Further, many defendants have also escaped liability by asserting statutory authorization of the activity complained of as nuisance. The expression

of the statutory authorization defence which has become classic is that of Viscount Dunedin in the English case Manchester Corporation v Farnworth.<sup>89</sup>

"When parliament has authorized a certain thing to be made or done in a certain place, there can be no action for nuisance caused by the making or doing of that thing if the nuisance is the inevitable result of the making or doing so authorized..."<sup>90</sup>

In conclusion, the nuisance concept has been and continues to be a frequently used in favour of individuals and public officials who seek to control or recover from those who use their property in such a way that they cause harm or damage to another.

#### 1.4.4 STRICT LIABILITY

The last relevant doctrine is that of strict liability, that is, liability independent of negligence. The rule was established in the Rylands v Fletcher<sup>91</sup> case. It represents the response of the judiciary to human activities which impact on, *inter alia* the environment. This case has been interpreted to mean that there are activities for which, if they lead to damage, the perpetrator would be liable without any necessity on the part of the person harmed to show negligence.<sup>92</sup>

The rule imposes on anyone who keeps on his land something which is potentially likely to cause mischief, liability for all consequent damage in the event of escape. Under English law, there is no general principle of strict liability for ultra-hazardous activities, as in subsequent judgement, after the Ryland's case, the rule was reinterpreted to apply only where land is used for exceptional purposes. As a result, the rule is seldom used.<sup>93</sup> Judges have thus developed a number of principles the effect of which has been to curtail the applicability of the rule in Rylands v Fletcher. It has been said that this situation has arisen because the common law traditionally frowns on the doctrine of strict liability. It leaves such matters to statute.<sup>94</sup>

#### **1.4.5 THE REMEDIES**

The remedy which the successful plaintiff obtains is of great importance. Ordinarily, a plaintiff in an environmental case asks for both damages and an injunction. The one that is most important to him depends not only upon the nature of the harm of which he complains, but also upon whether his primary motivation in bringing the action is personally or socially oriented. A mere recovery of damages is sufficient where the suit is for personal redress only, but an injunction is more important for community oriented suits.<sup>95</sup>

An **injunction** is a court order restraining the defendant from doing something, or, more rarely, compelling him to do something. The question of whether to grant an injunction is not a simple one. It will only be awarded where the court feels that an award of damages would not adequately compensate the plaintiff; for example, where the defendant shows no intention of discontinuing the activities complained of.<sup>96</sup> However whether or not a court will grant an injunction in environmental cases, and if so, under what circumstances, is a question that is difficult to answer. There is frequently a tension between the injury to the plaintiff and the benefits derived from the defendant's conduct. Pollution may be emanating from a plant that employs thousands. To enjoin the discharge completely may result in the shutdown of the plant, and a loss of jobs for its workers.

The controversy over injunctions in environmental cases is amplified in the majority and the dissenting opinions in the **Boomer v Atlantic Cement Company Case**.<sup>97</sup> where the court upheld the denial of an injunction against the defendant, whose emission of pollutants from its cement plant was damaging the plaintiff's neighbouring land. The court was determined to avoid closing down the defendant plant. The court thus granted an injunction "which shall be vacated upon payment by defendant of such amounts of permanent damages".<sup>98</sup> Judge Jasen dissented stating that the majority were in effect licensing continuing wrong by saying to the company "...you may continue to do harm to your neighbour so long as you pay a fee for it..."<sup>99</sup> This case demonstrates the court's

unwillingness to look at environmental issues from a societal point of view. Courts are only willing to resolve problems as between the litigants.

If permanent damages are to be granted in lieu of the injunction an effective weapon will be deleted from the arsenal of environmental protection devices. There are those who hold the opinion that injunctions are not a panacea and that there are some important philosophical objections to the use of injunctions as a weapon against, for example, industrial air pollution control. This is because injunctions cannot be used to combat problems of a widespread concern.<sup>100</sup> Thus legislative action is necessary for the elimination of certain environmental problems, and is probably the most desirable type of response to all problems of industrial air pollution, which is a major concern of this study.

The other available remedy is that of **compensatory damages**. If there has been damage to property, the question of compensatory damages may be rather straightforward. The court will seek to compensate the plaintiff for the cost value of his/her use of the land or its diminished property value. Where there are personal injuries, the issues are far more complex. Ordinarily, the type of damages awarded are monetary. The assumption is usually that such an award is sufficient and suitable. Furthermore, this award generally causes less hardship to the defendant as compared to, for example, cessation of the activities which are the subject matter of the complaint. The fundamental problem is that

the common law is primarily concerned with relations between individuals, and under such conditions, a limited range of remedies is usually adequate.

The complex social and economic problems characteristic of environmental issues generally extend beyond the interests of litigants, and their resolution requires the use of remedies which allow arguments to be balanced in a wider context, that is, taking into consideration the good of the society in general. The common law, with its central concern of resolving private conflict, is not equipped for such a task.<sup>101</sup>

#### **1.4.6 EVALUATION OF THE COMMON LAW REMEDIES**

It is incontestable that the common law of Torts offer considerable potential for defending public and private rights against environmental pollution and other ecologically harmful activities. However, in practice, the common law is severely limited as an instrument of environmental protection for various reasons. One of the most important defects can be found in the restricted grounds for action, **locus standi** or **standing to sue**. An action may be brought in court only if it meets certain criteria. In the case of environmental issues these have proved to be highly restrictive, and as a result only a minority of such cases are actionable.

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The legal capacity of the person to challenge an action or decision depends on ownership of, or other interest in property. Traditionally, environmental issues were regarded as questions of property, and therefore as a matter of private rights and obligations. The common law thus tends to be individualistic, protecting the rights of an individual as an individual, and leaving him to decide whether to take legal proceedings. The common law has never explicitly recognized a public right in the environment. <sup>102</sup>

Judicial decisions already outlined here show clearly that the courts prefer to deal with the "best" plaintiff. This is the notion that only a person who is directly affected by an action has a right to complain. They take the approach that the present user has a more direct stake in the outcome of the matter and is therefore the preferred plaintiff. In such controversies, the courts have been unwilling to distinguish between environmental matters and other matters which ought to be looked at from a societal point of view.

**The Sierra Club v Morton** <sup>103</sup> is an example of instances when the courts insist that the plaintiff must have a stake or interest in the outcome of the controversy. The Sierra Club, a conservation organisation in the USA, sought to prevent the Walt Disney Company from being granted permission to develop a resort on national forest land.



The Sierra Club argued that the forest land was of real natural beauty and they sued as an organization with a special interest in the conservation and sound maintenance of the national parks.

The court noted that there was no allegation in the complaint that the members of the Sierra Club would be affected by the actions of the defendants other than the fact the actions are personally displeasing or distasteful to them. The lower court further stated that without showing a more direct interest the club could not have legal standing to sue. In the court's opinion, those who are not immediately or directly injured are people who "seek to do no more than indicate their value preference through the judicial process"<sup>104</sup>, and those were values which the court was not in a position to deal with.

Kenyan courts are similarly rigid when it comes to the question of **locus standi**. A recent example is the cause of **Wangari Maathai v Kenya Times Media Trust**<sup>105</sup> in which the plaintiff sought an injunction to restrain the defendant from erecting a building in Uhuru Park because of apprehended environmental damage. It was held that only the Attorney- General had locus, and therefore only he could sue as the vindicator of the public interest. This decision can be contrasted with another decision in **Alfred Niau v. City Council of Nairobi**<sup>106</sup>, in which the judge was of the view that:

".....the tendency is not to prevent people bringing to the attention of the court unlawful conduct by public authorities with a view to redress or getting the unlawful conduct stopped".<sup>107</sup>.

The courts should not deny environmental groups the right to obtain equitable relief. The courts have a discretion to modify the application of any unconscionable rule, as injustice should never go unredressed.<sup>108</sup> It cannot be denied that most conservation groups have a fervent and earnest interest in the values which they represent, and so actual or threatened injury to those values seem to give them a significant stake in the outcome of an injunction suit against a polluter.<sup>109</sup>

Unfortunately, courts are not concerned with the public policy or public interest as such and are only interested in redressing the issues as between the parties concerned. The courts are non-activist by nature, and are only concerned with the solution of the dispute before them.<sup>110</sup> The position of the common law was illustrated by the case of **Esso Petroleum Company Ltd and Anor. v Southwest Corporation**.<sup>111</sup> In this case a crippled oil tanker discharged a considerable amount of oil in a river. This oil drifted to the appellant's premises which was offshore. Interestingly enough, the action was not brought for pollution of the marine environment, but rather for the recovery of expenses incurred in ridding the premises of the oily discharge. The far more serious interest at

stake, that is, the security of the environment, was not only not a part of the plaintiff's case, but was also declared irrelevant by Lord Devlin.

He stated with great clarity the common law's lack of concern for the protection of environmental concerns in the public domain. He pointed out that at that stage in the development of legislation, the law-makers had not seen a need to extend the provisions, in such legislation, to cover the public domain. For him, when and if such a need ever arose then parliament would, no doubt, enact such legislation.<sup>112</sup> This approach has led certain scholars to conclude that since environmental matters are first and foremost public issues, the courts in their present form, are not the most suitable agency for their implementation.<sup>113</sup> Since the maintenance of a balance between economic activity and ecological stability is not the main concern of the common law, it may be observed that therefore, EIA has no status at common law, as it is applied in Kenya today.<sup>114</sup> The Limitation of Actions is another barrier to the usefulness of the common law doctrines with regard to environmental management and protection. In Kenya an action in tort must be brought within three years.<sup>115</sup>

In environmental torts, there is frequently a lapse of time between the defendant's conduct and the realization or manifestation of the plaintiff's injury. The defendant may place toxic substances in a landfill and it may take many years before the toxic leachate from the landfill moves through the ground water to the plaintiff's well. It may take the

plaintiff many more years to discover that the well is contaminated, and still more yet to discover the source of the contamination. As a general rule, the limitation period begins to run when the cause of action accrues. Traditionally, the cause of action accrues at the time of the defendant's tortious conduct. Such a rule would defeat an environmental tort action before it even got to the courthouse.

At first sight the law of torts would seem to offer considerable potential for defending public and private rights against environmental damage. It has developed many types of action for resolving a wide variety of issues, and provides numerous precedents. In practice, however, the common law is severely limited as an instrument of environmental protection. It is too confining, and therefore limited as a device for environmental management.

To overcome the deficiencies of the common law, many governments have successively turned to legislation for environment protection and management. Legislation has some inherent advantages over the common law. The function of legislation is mainly threefold: firstly, to reflect the policies formulated; secondly, to provide a framework for institutional mandates, powers, standards, and means of, in this case, environmental management, and thirdly, to build in flexibility to permit executive adaptation to changing problems and formal revision when major policy goals are involved. In this

last regard, legislation is especially more useful than the common law which, as we have seen, is very rigid.<sup>116</sup>

## **1.5 ENVIRONMENTAL IMPACT ASSESSMENT: A DEVICE FOR ENVIRONMENTAL MANAGEMENT.**

### **1.5.1 INTRODUCTION**

EIA, as an approach to the evaluation of development actions, arose due to a number of reasons. Firstly, due to the growing scale of industrial activities, there resulted a lot of harmful impacts which reduced predicted benefits. Secondly, there was the growing awareness of the environmental consequences of development. Finally, there was considerable evidence of the inadequacy of existing appraisal techniques.

Projects were assessed on technical grounds and for economic feasibility. Environmental, social and health impacts were rarely considered. In addition, there was a failure to consider the policy context in which proposals were put forward.<sup>117</sup> A mechanism for addressing more fundamental questions regarding, for instance, the need for a particular development project, possible alternatives, and to determine the appropriate levels of safety and environmental protection measures was needed. EIA is an example of such a mechanism, as it is a process which typically combines a tool for

analyzing environmental effects and a procedure to bring this analysis to bear on decisions.<sup>118</sup>

The first stages of environmental protection largely consisted of "react and cure" measures. However, by the 1970s, experience had shown that it was very expensive to clean-up after the damage had already been done. It had become clear that it was environmentally and economically sound to anticipate-and-prevent, for example, the effects of pollution by industrial plants, by designing them in such a way as to avoid pollution before it occurs, thus avoiding the cost of clean-up. Anticipate- and-prevent strategies could be implemented through technology assessment, EIA, and land use planning laws among others.<sup>119</sup>

### **1.5.2 DEFINITIONS OF EIA.**

There is no general and universally accepted definition of EIA. This is just as well, as EIA is still a growing and changing concept, and the lack of a textbook definition facilitates further development.<sup>120</sup> EIA has been variously defined by different persons: for example, **R E Munn** defines it as "... an activity designed to identify and predict the impact on man's health and well being, of legislative proposals, policies, programmes and operational procedures and to interpret and communicate information about the impacts."<sup>121</sup> **UNEP** in 1978 described EIA as follows: "... to identify, predict and to

describe in appropriate terms the pros and cons (penalties and benefits) of a proposed development. To be useful, the assessment needs to be communicated in terms understandable by the community and decision-makers and the pros and cons should be identified on the basis of criteria relevant to the countries affected".<sup>122</sup>

Later in 1987, UNEP defined EIA to mean: " An examination, analysis and assessment of planned activities with a view to ensuring environmentally sound and sustainable development".<sup>123</sup> It has also been described as "... an assessment of all the relevant environmental and resulting social effects which would result from a project"<sup>124</sup>; and "... assessment consists in establishing quantitative value for selected parameters which indicate the quality of the environment before, during and after the action".<sup>125</sup>

All these different definitions have some common areas. EIA is taken to mean the systematic examination of the likely environmental consequences of proposed projects, programmes, plans and policies, and the communication of the same to decision makers, to enable them to formulate environmentally sound development proposals.

### 1.5.3 HISTORICAL DEVELOPMENT OF EIA AS A DEVICE OF ENVIRONMENTAL PROTECTION.

Environment assessment has always been part of any development process though not under that name, nor in that form. The historical assessments are different from modern practice, more because of their simple approach than because of any great difference in philosophy. History shows the practical responses used by different societies to address the environmental problems faced by them. Terraced agriculture, contour cultivation and irrigation canal systems are examples of solutions to environmental problems enforced by man in historical times.<sup>126</sup> As early as 1548, a commission was set up in England to examine the environmental impacts of some iron mills and furnaces in Kent and Sussex. Much of the information collected was similar to that which would be gathered for a contemporary EIA. The commission predicted that there would be community decay if no steps were taken to mitigate the effects of further development<sup>127</sup>

Environmental assessment as we know it today started in the USA when the expansion of industry (which began during the Second World War) continued to increase and intensify and the practices of intensive farming became more widespread. The postwar expansion began to cause environmental damage which crossed the ecosystems' thresholds of tolerance for pollution and disturbance. Widespread public interest and concern was aroused by **Rachel Carson's book Silent Spring**, published first in the USA



and then in the United Kingdom, in 1963. The book set out to show the American people how their lands and lives were affected by large-scale and indiscriminate spraying of crops with powerful insecticides and herbicides. From this beginning, there arose public concern for the environment and eventually, pressure by the public and by environmentalists forced the authorities to exert some control over the release of toxic chemicals into the environment. The control was established by the 1969 National Environment Policy Act (NEPA) which required EIA to be undertaken.<sup>128</sup>

Environmental Impact Assessment may be considered as having been accepted in principle at the United Nations Conference on the Human Environment, in Stockholm, when the framework for modern environmental (international and national) policies was laid down. The conference gave the impetus for the establishment of environmental protection agencies, with developing countries also following suit with their industrialized counterparts. EIA is now gradually becoming part of the feasibility consideration of new projects in most countries.<sup>129</sup>

#### **1.5.4 ENVIRONMENTAL IMPACT ASSESSMENT AND DEVELOPMENT ASSISTANCE AGENCIES**

**Horberry (1984)** <sup>129A</sup> contends that the pressures exerted by international assistance organizations have been the main impetus for the diffusion of EIA in developing

countries. The agencies either try to ensure, independently, that their funding programmes do not cause undesirable environment impacts, or they support the programmes of environmental institutions in the recipient nations.

Initially both multilateral and bilateral agencies were reluctant to support EIA initiatives. They considered the consequential expenses to form part of the local cost component of total project costs, and therefore as being the concern of the recipient country, and not that of the external funding agencies.<sup>129B</sup>

At the Stockholm Conference, the lending agencies were therefore generally reluctant to incorporate environmental considerations in their project planning process. These agencies however responded to the concerns raised at Stockholm in various ways. For example, the United States Agency for International Development (USAID) has been required to incorporate environmental concerns in all its projects since 1970, by the National Environmental Policy Act (NEPA); but it did not begin doing so until 1975. However, today the USAID takes the obligation seriously and insists upon it as a vital component of projects that it funds.<sup>129C</sup>

The World Bank responded earlier than other aid agencies to concerns about the environmental consequences of development projects in the Third World. In 1970, even

before Stockholm, the World Bank established its Office of Environmental Affairs (OEA).<sup>129D</sup>

Many development assistance agencies have thus moved from paying little attention to environmental factors in project planning and decision-making, to leading other development agencies in raising environmental issues and concerns. This, however, does not mean necessarily that their environmental policies have a timely and a substantive influence on project decision-making. It means only that these agencies have organizational units in place to address environmental issues.<sup>129E</sup>

#### **1.5.5 BENEFITS OF ENVIRONMENTAL IMPACT ASSESSMENT**

Environmental management and protection is sometimes seen as a luxury in the developing countries, where economic development and the alleviation of poverty are the major concerns of most governments. Better methods are therefore needed to help decision-makers balance the demand for immediate gains from exploitation of resources, with the necessity to maintain the long-term capacity of ecosystems to sustain development. EIA serves to provide organized information transfer on relevant matters to decision-makers.

There are a number of ways in which EIA can improve efficiency in decision-making, but to be effective EIA should be implemented at an early stage in the project planning and design. The incorporation of EIA into decision-making creates a number of benefits. Firstly, when predictions of the likely impacts are available, measures can be taken to minimize any adverse impacts. Secondly, EIA can guide in site selection by identifying those areas most susceptible to adverse impacts. This helps to reduce harmful effects.<sup>130</sup> Thirdly EIA can also aid better coordination and cooperation between agencies. EIA requires input from different sectors under the coordination of one agency. EIA can hence act as a coordinating device for inter-agency cooperation.<sup>131</sup> In principle, EIA procedures should apply to all actions likely to have a significant environmental effect.

A comprehensive EIA system would include the appraisal of policies, plans, programmes and projects. Unfortunately, comparatively few policy or plan level EIAs have yet been attempted.<sup>132</sup> Evaluation of higher-order decisions is widely believed to be very important. For example, the view has been expressed that "unless an environmental instinct is implanted at the policy determining level ... EIA will tend to be a cosmetic exercise."<sup>133</sup>

EIA is a valuable preventive device which enables decision-makers to either eliminate or mitigate undesirable effects of proposed projects. A thorough and comprehensive EIA could lead to the identification of potential adverse effects of projects, and to subsequent

incorporation of modifications so as to effect the reduction or elimination of those adverse effects.<sup>134</sup> (Figure 1 Annex 2 illustrates the role of EIA in planning).

It is important to keep in mind that while the impact assessment device is a useful tool, it is not a panacea for a nation's environmental problems. The primary value of EIA legislation is that it requires those proposing new development to "trade off" environmental factors against economic, social and technical factors in a systematic and balanced analysis. It is not a substitute for comprehensible measures to deal with environmental problems such as air and water pollution.

#### **1.5.6.            ORGANIZATION OF ENVIRONMENTAL IMPACT ASSESSMENT: THE EIA PROCESS**

For EIA to be applied effectively, the responsible institutions have to establish procedures regarding the implementation of the EIA process itself. These procedures should be able to allow effective analysis of the environmental effects, and bring the analysis to bear on decision-making.

The lack of consensus on the best approach to EIA is generally acknowledged. What is presented here is one approach to the EIA process, which is believed to be practical and cost-effective. This approach was developed on the basis of data drawn from developing countries.<sup>135</sup>

Much of the early dissatisfaction with EIA concerned the fact that it was applied to all kinds of projects, many of which, because of their very size or nature, had little or no adverse effect on the environment. In response to this criticism most countries instituted a process of **screening** those types of projects which are most in need of EIA. Screening helps to clear the types of projects which, from past experience, are not likely to cause serious environmental problems.<sup>136</sup> Some countries, such as France, Japan, the Netherlands and The United Kingdom have done this through establishing a positive (or negative) list of specific project types which must always (or need not) be submitted to EIA. Other countries such as Canada, Australia and the United States have established screening criteria or guidelines which are applied to projects on a case-by-case basis, to determine which ones should undergo an EIA. In both instances, an attempt has been made to cover major developments which, because of their size, nature and location, could significantly affect the quality of the environment. The resultant project-types included in the list of those to be screened include large infrastructure projects, power generation, extraction of minerals and forestry management.<sup>137</sup>

If screening does not automatically clear a project, the developers may be asked to undertake a preliminary assessment, that is, **Initial Environmental Examination (IEE)**. Based on the review of the IEE, the relevant agency will then decide whether the project involves significant environmental effects or not. If the effects are not significant, the project undertaker is responsible for implementing the measures for environmental protection that have been specified, but no further reference to the EIA is required. If, however, the anticipated effects are judged to be significant, the undertaker may be required to carry out a detailed EIA and develop more appropriate mitigatory measures.<sup>138</sup>

Screening and preliminary assessment are the two tiers of assessment which should be applied to a project before proceeding to a full EIA. If after reviewing a preliminary assessment the competent authority considers that a full EIA is needed, the next step for the project developer is the **organization of the EIA study or preliminary activities**. This will entail identifying the decision makers, selecting a coordinator, review of the existing legislation, writing a description of the proposed action, and determining how and when the EIA's findings will be communicated.<sup>139</sup> "**Scoping**" is a somewhat technical-sounding word for a relatively simple process for structuring an EIA, so that it can be carried out quickly and in an effective manner. It originated from the USA and grew out of the failure of the government in the early years of NEPA to issue effective guidelines to federal agencies on how to prepare environmental impact statements. In

response to these and other problems, the US Council on Environmental Quality (CEQ) issued new NEPA regulations in 1978, which mandated that:

" There shall be an early and open process for determining the scope of the issues to be addressed and for identifying the significant issues related to a proposed action. This process should be termed scoping.. " <sup>140</sup>

Scoping usually takes place during a one-day 'scoping meeting'. Sometimes a scoping exercise can involve a large number of people and can resemble a full fledged public hearing. More often, however, the exercise involves a small group of about ten people who represent the various actors involved in the decision. Those concerned would include the project proponent, government agencies, environmental agencies, citizens' groups and other interested parties. They come together to decide the scope of the EIA. In other words, they decide upon the number and types of alternatives together, with the number and types of impacts to be assessed.<sup>141</sup> This stage is very important, as it can provide clear direction for the EIA work. The study team selects primary impacts for the EIA process to focus on, relying on the basis of magnitude, geographical extent, significance, or special local sensitivities (e.g. soil erosion or the presence of endangered species or a nearby historical site). The scoping of the project is best done after the engineering and economic feasibility studies have been completed, when a clear picture of the viable alternative is available.<sup>142</sup>



There are however, some lessons which have emerged from experience with scoping, which could give cause for concern. They have to do with the elimination of insignificant issues. Although the main purpose of scoping is to identify the significant issues and eliminate the insignificant ones, experience has shown that environmentalists rarely agree on the elimination of insignificant issues. As a result, more issues often result from scoping than those which were originally considered by the project proponents. Experience has also shown that the criteria being used to determine the significance of an impact or an alternative are extremely subjective. "Public concern" for example, is a frequently cited factor in determining significance in the USA. Despite these drawbacks, international experience has shown that where scoping does not take place, delays often occur along with extra costs because of time spent in assessing impacts that were not identified earlier on but which eventually proved significant.<sup>145</sup>

The next stage is the **Baseline Study** which is simply a record of what existed in an area prior to an action. It is primarily a bench-mark for the future. This is followed by **Impact Evaluation Qualification** also referred to as Impact Prediction. This is the most difficult technical aspect of EIA. This is because present day technology does not permit quantification of all impacts.

Even if there is adequate time and money to carry out a proper EIA, it must be recognized that there are considerable problems associated with prediction. This is

because, firstly, the environment is a complex dynamic system involving interactions that are difficult to determine and often poorly understood. As a result, there is often no way of making an objective prediction of the likely extent of impacts. Secondly, the changes that are of particular interest and relevance to decision-makers are often those that are impossible to quantify, for examples, loss of an area of ecological importance.

The main activity here is that the quantitative changes due to an impact are computed wherever feasible. The impacts of those activities will be quantified from both short-term and long-term perspectives.<sup>144</sup> **(Table I Annex 3 illustrates the environmental parameters that can be considered when undertaking impact evaluations).**

The next stage is the **Assessment of mitigation measures**, which is an integral part of EIA and an activity of key importance in the overall process. Although it is seldom possible to eliminate an adverse environmental impact together, it is often possible to reduce its intensity. This is referred to as a mitigation measure. Such measures may include changing the project site, routes, operating methods, engineering design, introducing pollution control and other matters. All mitigation measures cost something, and the cost must be quantified too.<sup>145</sup> The assessment step has often been labelled comparison of alternatives. It is at this point that the technical information gained at the earlier stages will be collated and the environmental gains and losses combined with economic costs and benefits to produce a full picture of each project alternative. The

simplest approach to comparison is cost-benefit analysis. Whatever method is chosen, one would work through the figures and arrive at a preference ranking of alternatives.<sup>146</sup>

**Public Participation** is a most significant aspect of EIA. This has taken two forms: The direct involvement of the public, and the inclusion of local values in environmental methodologies. Public comment should be sought from all parties who will be affected by the proposed action. The most effective means of soliciting public comment varies from country to country. In the USA, Canada and some European countries, public participation has become synonymous with public hearings. Each country should seek the most effective way of eliciting public comment.<sup>147</sup>

The **documents** which will arise out of an EIA fall into two categories: **Reference documents and working documents**. The former contain a detailed record of the work done in the EIA, and are necessary for future reference. The latter are those documents which convey information for immediate action, that is, the environmental impact statement. The documentary summary will be forwarded to the decision-makers. This document will contain all the relevant information and will also recommend several preferred courses of action.<sup>148</sup>

The decision-maker may either accept one of the project alternatives, recommend further study or modifications or reject the proposed action altogether. Where the project is

accepted the decision-makers may need to take two further actions. Firstly, they may need to prepare a plan for reducing conflicts about the project and this may include public participation; and secondly, they may insist on the developer's adherence to its environmental requirements. Where the decision-maker chooses to reject a proposed project altogether, there should be an appeal process open to the project developers. The EIA process does not end with decision-making. There should be subsequent **monitoring** and **post auditing** to determine how close the EIA predictions were to the projects real impacts. This forms a valuable record for others undertaking EIAs on similar projects in the future.<sup>149</sup> (Figure 2 Annex 4 illustrates the activities for the EIA process).

### 1.5.7 EIA METHODS

The purpose of this section is to present a brief review of some environmental impact assessment methods. Such methods are defined here as "organized approaches which seek to identify, measure, predict, evaluate, interpret and communicate environmental impacts."<sup>150</sup> According to **Davies and Muller**<sup>151</sup>, there are approximately one hundred methods for carrying out EIAs but most of these can be divided into just a few classes. In our study we will discuss only a few of these methods. These have been chosen because they are either the most commonly used, or the most cost effective and uncomplicated models, and are therefore appropriate for developing countries. Perhaps the first statement that needs to be made about EIA methods is that there is no such

thing as a comprehensive EIA methodology, which performs all the necessary EIA tasks. Rather there exist a number of so-called "comprehensive" methodologies which allow some of the tasks to be undertaken.

In making a decision as to what method is to be used, the EIA methods should be evaluated against the following criteria:

- (a) **Replicability** - Whether the same impact assessment would be made by different analysts using the same method.
- (b) **Consistency** - Whether the same method can be applied to project alternatives to enable comparisons of environmental impacts to be made.
- (c) **Adaptability** - Whether the same method can be applied to different types of action and,
- (d) **Resources requirements** - What the demands of the method will be on data, manpower, time, finances and technical resources.<sup>152</sup>

Needless to say methods which perform well when judged against one criterion may not do so when judged against another. In the final analysis the selection of an appropriate method is a matter of judgement and experience.

The nature of the EIA tasks may be classified as identification, measurement, interpretation and communication. Identification methods should provide for a review of the full range of possible significant impacts associated with the action and the relevant alternatives, including secondary impacts. Measurement methods should indicate the nature of the data available, its method of collection, its qualities and any limitations in its use, as well as predicting the magnitude of impacts. Interpretation methods should distinguish between the magnitude and the significance of different impacts, and make explicit the criteria and assumptions used in predicting the significance of impacts. Communication methods should identify the main geographical areas and social groups likely to be affected by each significant impact, and should bring the main findings before the public, relevant agencies and relevant authorities, in a clear and intelligible manner.<sup>153</sup>

The methods and techniques to be considered here include the **ad hoc methods, checklists, matrices, network, overlays and cost-benefit analysis**. These are some of the most useful and commonly used methodologies. The **ad hoc** method is the simplest method as it can be performed by persons who have not been specifically trained.

This method however has some major weaknesses. Firstly, it presents the information of a project's effects on the environment without any sort of relative weighing of any cause - effect relationship. Secondly, it does not even go as far as stating the actual impacts on the specific parameters that will be affected, and thirdly, it gives no assurance that it encompasses a comprehensive set of all the relevant impacts. It is thus not recommended as a method for impact analysis.<sup>154</sup>

**Checklists** are lists of environmental parameters, or impact indicators which the environmental analyst is encouraged to consider when identifying potential impacts. Checklists, in general, are strong in impact identification and are capable of bringing those impacts identified to the attention of those concerned with the EIA process. Checklists methods are beneficial to the extent that they can identify impacts. Identification of impacts is the most fundamental function of an EIA, and therefore checklists are recommended for use where one needs to identify impacts.<sup>155</sup>

**An environmental matrix** is an extension to the use of a checklist in that it employs a list of project activities in addition to a list of environmental characteristics or impact indicators.<sup>156</sup> Matrices provide cause -effect relationships between the various project activities and their impacts on the numerous environmentally important sectors or components. Matrices provide a graphic tool for displaying impacts in a manner that can be easily comprehended.<sup>157</sup> **Leopold et al**<sup>158</sup> designed one of the first matrices used to

assist in the evaluation of the environmental impact of a resource project. This method has served as the basis of many of the matrices which have been developed since then. Matrices are strong in identifying impacts, and unlike checklists, can also represent higher order effects and interactions. That is to say matrices can show how the identified impact will affect and interact with the environment on both a short -term and a long -term basis. They can also provide the functions of impact measurement, interpretation and evaluation, and can communicate the results in an easily understood format to the concerned persons. However, matrices are not consistent as impact alternatives cannot be compared in a single format and each alternative has to be assessed and presented separately before comparison.<sup>159</sup> This can interfere with the accuracy of the eventual analysis.

**Networks** are extensions of matrices and were first proposed for use in environmental assessment work by **Sorensen**.<sup>160</sup> Networks are capable of identifying direct and indirect impacts, and incorporate mitigation and management measures into the planning stages of a project. Networks are suitable for expressing ecological impact, but are of less utility in considering social, human and aesthetic aspects. Although networks are capable of presenting scientific and factual information, they provide no avenue for public participation.<sup>161</sup>



**Overlay mapping** is useful when addressing questions of site and route selection. It provides a suitable and effective mode of presentation and display. But overlay mapping analysis cannot be the sole basis for EIA. There is no provision for quantification and measurement of the impacts, nor is it assured that all impacts will be covered. The considerations in overlay mapping analysis are purely spatial, social, human and economic aspects are not accorded any considerations. One area where overlays are useful is in EIA being undertaken for purposes of industrial activities or projects. Overlays can be used in such projects to compare the land capabilities with the existing and projected land uses.<sup>162</sup>

**Cost -benefit analysis** is the last method under consideration. This is the simplest approach to comparing alternatives across both the economic and the environmental fronts. To compare alternatives using this method, the environmental impacts must be converted into economic equivalents and listed as costs or benefits. A cost -benefit analysis is then done for each alternative and the recommendations are made on that basis. This approach has one major attraction for developing countries decision -makers, namely, they are quite familiar with the economic terms but ill at ease with environmental concepts. Thus when the entire project is being reduced to a cost -benefit analysis, the decision -maker is being addressed in a language which he understands. However this method has certain limitations. A major problem with cost -benefit analysis

for environmental analysis is that many impacts cannot be readily reduced to cash equivalents, for example, what is the value of a human life.<sup>163</sup>

In conclusion, we can say that there is no single, generally acceptable EIA method. Any one or combination of the approaches discussed here, could effectively be used to assess the impact of a development project. In general, it can be seen that methods exist which ensure that the impacts of a project will be identified, but there still remain substantial problems in the areas of impact measurement and evaluation.

#### **1.5.8 CONCLUSION**

In this chapter, we have defined the concepts that are central to this study. The question of environmental management and the development paradigm are addressed. A solution is presented, namely that EIA be introduced as an anticipatory approach to development planning. EIA is analyzed in greater depth by presenting an evaluation of the history of EIA development, the EIA process, benefits and methods. In the following chapter, we will evaluate the implementation of EIA in Kenya.

## CHAPTER TWO

# THE FRAMEWORK FOR THE MANAGEMENT OF NATURAL RESOURCES AND IMPLEMENTATION OF ENVIRONMENTAL IMPACT ASSESSMENT IN KENYA

### 2.0 INTRODUCTION

In this chapter we seek to carry out five of the objectives of this study. We will begin by identifying the major environmental problems which Kenya faces today. We will then proceed to identify the environmental management policy in general, and in particular with regard to Environmental Impact Assessment ( hereinafter referred to as E.I.A )

Our next task will be to identify and describe the legal and institutional arrangements concerned with environmental protection, with special reference to **Industrial pollution**. The main objective here will be to assess the efficacy of that framework for the purpose of implementing E.I.A. We will consider the role of The National Environment Secretariat (NES) in E.I.A, as it is now, and as we feel it should be, including its place in the decision-making and planning process, its functions and its operations. At the end of this chapter, we hope to have fully tested the fourth hypothesis with which this study begins, namely, that only a legislated E.I.A can serve effectively for purposes of environmental protection and management.

**2:1. THE FRAMEWORK FOR THE MANAGEMENT OF NATURAL RESOURCES IN KENYA**

**THE NATURE OF THE ENVIRONMENTAL PROBLEMS**

Kenya is still a predominantly rural society with a population of 25 million, its growth rate being about 3.3 per cent per annum.<sup>1</sup> Access to land and the pressure of population on the land have been crucial issues at all stages of the development of modern Kenya.<sup>2</sup> The pressure of expanding population on the limited arable land is the central factor constraining the nation's development. The economy is dependent on the quality of available resources for the sustained use of its productive systems of forestry, agriculture, livestock and fisheries. The depletion and degradation of air, water, land and forest resources form Kenya's principal environmental problems.<sup>3</sup>

Kenya's environmental problems arise from two quite different sets of factors. There are those which arise essentially from poverty and underdevelopment, and those which arise from growth in economic activity and development.<sup>4</sup> The latter ones form our main concern. Poverty and under-development create environmental problems in several ways. Inadequate sanitation and inadequate water supply facilities contribute to increased public health hazards, such as, dysentery and other endemic diseases. In addition, poverty encourages production and consumption patterns that degrade and deplete natural resources and reduce land productivity, thereby reproducing poverty. The destruction of

trees for fuelwood, cultivation on steep slopes, and overgrazing are among the responses of poor people with few options for survival.<sup>5</sup>

Ironically, many development projects designed to provide services, employment and development also create environmental problems. These development projects have led to decertification, deforestation, soil erosion, water pollution, air pollution and also caused endemic diseases.<sup>6</sup>

This study is concerned more specifically with the effects of Industrial development on the water resource and the atmosphere.

## **2:1:1 INDUSTRIAL DEVELOPMENT AND INDUSTRIAL POLLUTION**

Although Kenya is still far from being an industrialized country, she has one of the largest industrial sectors in sub-saharan Africa. The growth rate of the sector has been above 5 per cent during the first two decades of Independence. Since 1990 the rate has declined sharply from 5.3 per cent to 1.3 per cent largely because of global recession.<sup>7</sup> This decline, however, does not lessen the need for a forethought and for appropriate preventive measures in respect of environmental deterioration. It is all too easy for particular industries and plants to become dangerous sources of localized pollution and environmental degradation.<sup>8</sup>

There is a need, in the industrial sector, to incorporate environmental factors in planning, design and evaluation at the project level to a substantial degree. Since Kenya is still promoting growth in industrial output, the management and control of industrial pollution has become an increasingly important element in the total environmental picture.<sup>9</sup> The major types of pollution caused by industrial development include water pollution, air pollution, noise pollution and solid waste pollution.<sup>10</sup> Our study is mainly concerned with water and air pollution.

**(i) WATER POLLUTION**

Many of the water pollution problems arise from the discharge of industrial effluent into common sewers where there are no separate treatment facilities.<sup>11</sup> In other industries, problems of pollution arise from inadequately designed treatment plants, or from the industry outgrowing its treatment facilities in the course of time. In the rural areas, cases of industries discharging their effluent directly into the natural waters without treatment are quite frequent.<sup>12</sup> This is in obvious disregard of public health regulations.

**(ii) AIR POLLUTION**

Air pollution from industrial vaporous and particulate matters has not been monitored in Kenya with any degree of precision. However, ample evidence of the extent of pollution

exists from visual observation. The Building construction industry is responsible for creating considerable dust nuisance. A simple "collar test" for example, will reveal this fact. If one examines the shirt collar both at the beginning of the working day, and again at the end of the day, there will be a change. The difference in the condition of the collar is attributed to polluted air in the place of work.<sup>13</sup>.

Quarries and cement factories also add to the dust and particulate matter. Mining and crushing processes produce airborne dust. Emissions of airborne fumes from industrial estates are undoubtedly on the increase as the industrial sector develops and diversifies.<sup>14</sup>

The fact that Industrial pollution has not loomed as an environmental problem in the past has meant that there has been very little consideration of environmental matters in the programming of industrial development. This has undoubtedly resulted in avoidable instances of wrongful siting of industries, omissions of waste treatment and disposal facilities, and neglect of the working environment.<sup>15</sup>

A 1973, a World Health Organisation ( W.H.O ) study on water pollution control in Kenya stated that Kenya did not have a serious water pollution problems at the time. However the study also pointed out that the existing problems indicated that matters could become more serious in the future, if active measures were not taken to control pollution.<sup>16</sup> Shortly thereafter a note of urgency had marked the subject of water quality

standards. Newspapers highlighted the growing rate of industrial pollution of water <sup>17</sup>, and warned that it was high time environment protection was made the subject of a careful study, and action taken to ensure that instances of pollution were avoided in the future.<sup>18</sup>

Complaints brought to light by local dailies may be taken as indicators that all is not well with the environmental management system. A Research carried out by the Kenya Industrial Research and Development Institute ( K.I.R.D.I ) confirmed that emissions from the Kenya Matches Factory have rendered outlying water unfit for human consumption.<sup>19</sup> No corrective measures have been taken.

To illustrate the extent of environmental degradation in Kenya we will review some of the glaring problems in some leading industries. Industrial wastes constitute the greatest source of pollution of Kenya's water. These include effluent from coffee processing industries, from the sisal industry, from the sugar industry, from the pulp and paper industry and from the leather tanneries.<sup>20</sup>



## **2:1:2 THE MAJOR POLLUTING INDUSTRIES**

### **(i) THE COFFEE INDUSTRY**

Coffee processing industries are reputed to be the greatest source of water pollution in Kenya.<sup>21</sup> Coffee is one of the most important products in the Kenyan economy, a major foreign exchange earner. In all, there are well over 1200 coffee factories all located near small streams. During the coffee processing season, there is serious water pollution by coffee processing wastes, especially in Meru and Kisii Districts.<sup>22</sup>

Coffee processing waste - water is rich in organic matters which when decomposed becomes unsightly and smells. It reduces the oxygen content of the receiving watercourse, thus destroying flora and fauna, and often replacing them with sewage fungus. The waste water also increases plant nutrients' eutrophication. Eutrophic water is expensive to treat and the unpleasant smell of coffee wastes remains even after water has been treated.

In a recent study undertaken by the National Council of Churches of Kenya (N.C.C.K.), the plight of the Muranga coffee workers is highlighted.<sup>24</sup> The ever increasing number of factories is causing ecological hazards which are adversely affecting both animals and plants. The sprays used to control insect pests have left many people badly affected. During the rainy season, erosions of chemical remains overflow into people's homes.

causing many to suffer recurrent diseases such as skin rashes, cough and diarrhoea. Despite all these, new factories continue to come up.

The current regulations regarding coffee waste disposal in Kenya is contained in **Kenya Gazette Notice No. 827 of 1976**.<sup>25</sup> All coffee factories are required to instal a water re-circulation system. None of this water should be returned to the river but should be disposed of on land. Unfortunately, investigations carried out to establish compliance with this regulation indicated that there are still a large number of factories that have no re-circulation system.<sup>26</sup>

It is interesting to note that this method is not, and should not be considered as, wholly environmentally sound; for the restricted water provides breeding for mosquitoes. Furthermore, toxic chemicals may accumulate in the soil and thereby interfere with soil texture or ecology, and with its agricultural potential.<sup>27</sup>

## (ii) THE SISAL INDUSTRY

Kenya has more than thirty-seven sisal factories located around the country.<sup>28</sup> Sisal processing involves a technique known as decortication, whereby the fleshy tissue attached to the fibre is removed. This process involves the use of water. Fresh sisal waste has a high acidity level and produces a stinging sensation on the skin. The

enormous amounts of water from the factories pollute streams and give an offensive odour when fermenting.<sup>29</sup> Most of the methods used to treat sisal wastes are inadequate. The most satisfactory method of treatment is by biological filtration with re-use of affluent. However the cost of this method is prohibitive.<sup>30</sup> There have been cases of water pollution that have been reported. In 1974 The Thara River was reported to be polluted and the local people had to travel long distances to fetch clean water. The Kibwezi and Thika rivers are also polluted. Despite this, there has been very little emphasis on sisal-factory monitoring as compared to the monitoring of coffee factories.<sup>31</sup>

### (iii) THE SUGAR INDUSTRY

The sugar industry is an increasingly important industry in western Kenya, especially in Nyanza Province. The major sugar factories are Muhoroni, Miwani, Chemelil, Mumias and the New Nzoia Sugar Factory. The major polluting waste product is molasses, which has a high organic content and depletes oxygen in the receiving stream.<sup>32</sup>

The Chemelil factory situation illustrates how difficult it is to institute satisfactory anti-pollution measures on an already existing industrial establishment. The first complaint of pollution from Chemelil was reported on 12th May 1970, when the River Nyando was reported to be polluted. Molasses was being dumped in the river thereby causing fish to die, and causing obnoxious odours.<sup>33</sup>

is made. Part III seeks particulars on the method of diversion. Part IV is a general part and relates to administrative information.

Okoth-Obbo <sup>113</sup> comments, and correctly so, that if these requirements were pursued to the letter it would enable, first, the intended project to be described in full. Secondly, the impact of the project on the quantitative and qualitative condition of the water would also be described. Thirdly, there would also be a description of the measures which can be taken to mitigate the adverse environmental impacts.

Although parallels can be drawn between the scheme set out here and EIA requirements, in two respects the process falls short of EIA. First, although the applicant is required to indicate measures for the mitigating of adverse impacts, he is nowhere required to set out the predicted impacts of these measures. Secondly, there is no requirement to put forward alternatives to the proposed action.<sup>114</sup>

Applications for a permit are normally routed through the Catchment Boards, which are composed of officers and people living in those areas and have special knowledge of such areas. The application is then forwarded to the WAB with appropriate recommendations. The WAB has power to amend or vary the application, or its map or plan, or require further particulars. Under section 84, where conditional approval is given, the applicant has to cause a notice to be published in a local newspaper and the official gazette within

The Chemelil sugar factory saga is a good illustration of the ineffectiveness of fines as a pollution control measure. This is because, as stated by the manager of the Chemelil factory, it is cheaper to pollute and pay fines.<sup>37</sup>

The above situation brings out the main weakness in the existing water -protection system. For environmental protection and management the objective is to ensure that projects are carried out in an environmentally sound manner, and not that breaches may be punished after they have occurred.

#### **(iv) THE PULP AND PAPER INDUSTRY**

The three main companies engaged in the manufacturing of pulp and paper are the Kenya Paper Mills Limited at Thika, Transcandia in Nairobi, and Pan African Paper Mills at Webuye. The relevant authorities, that is the government, the Water Apportionment Board and the National Environment Secretariat (N.E.S), all take the view that the mills have caused no significant environmental hazards.<sup>38</sup> However, there has been public concern about the pollutant effect of the three mills.

## (v) THE LEATHER TANNERIES

There are more than twenty tanneries in Kenya today. Tanneries are significant users of water. Most of these tanneries are not adequately equipped with the appropriate facilities to carry out the most effective water treatment method.<sup>39</sup> Wastes from a tannery contain flesh and hair, which are removed from the hide, as well as tanning chemicals that are washed out of the leather during processing. The wastes cause a very serious odour problem and also degrade the water resource, making it unfit for human consumption.<sup>40</sup>

The above examples are merely instances taken to illustrate the nature of the environmental degradation caused by industrial development. There are many more instances which cannot be covered in this study. From the above, we can conclude that, there is a need to strengthen the capacity to assess projects before they are established, and to ensure that environmental guidelines are adhered to. Secondly, the life-support system for both present and future generations, in this case, the water system, is more important than the purely economic considerations. Any development pursued without taking this fact into account is not real development. Thirdly, it is always easier to anticipate and prevent environmental degradation, than to institute corrective measures after the harm has occurred.

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## **2:2 THE FRAMEWORK FOR ENVIRONMENTAL MANAGEMENT**

### **2:2:1 THE POLICY FRAMEWORK**

Although Kenya's Heads of state have made certain major statements on environmental management,<sup>41</sup> there is nothing yet in existence which could be called a coherent policy on environmental management, or any sort of policy at all.<sup>42</sup> A draft Bill entitled National Environmental Enhancement and Management Act (N.E.E.M.A) first appeared in 1980 when the National Environmental Secretariat (NES) moved to the Ministry of Environment and Natural Resources (M.E.N.R) from the Office of the President. To date NEEMA has not made even a first appearance in Parliament.

Efforts to list NEEMA for consideration when Parliament was opened in March 1984 were made. Unfortunately, no mention was even made of it in the President's opening speech.<sup>43</sup> The Kenya Law Reform Commission has re-drafted the National Environment Bill, 1993. This is similar to the N.E.E.M.A ,except that they have incorporated a Clean Air Bill in an attempt to get them passed together.<sup>44</sup> However the delays in having this environmental legislation presented in Parliament could be interpreted as indicating that the government does not, in practice, place great emphasis on environmental questions.

The 1980 draft was apparently rejected on the grounds that certain provisions were likely to present conflicts between the powers and functions of the Director, National Environment and Human Settlement Secretariat, and other government agencies or departments involved in environmental enhancement and protection.<sup>45</sup>

Other arguments against NEEMA questioned the utility of E.I.A as a valid project planning activity and the need for additional controls on public and private projects. Others charged that E.I.A. would require unnecessarily costly studies and delays to projects, thereby obstructing rapid economic development.<sup>46</sup> This determined opposition resulted in part from the failure of NES to provide a clear economic rationale for E.I.A, and to educate other government agencies on the utility of E.I.A, before introducing NEEMA.

Further arguments against NEEMA concerned the authority it would give NES to oversee and enforce E.I.A implementation. Most government agencies felt that if NES was vested with such regulatory powers it would exercise undesirable control over all the other agencies and departments responsible for the other sectors of government. They found this unacceptable.<sup>47</sup> NEEMA's failure to pass was a great setback to NES, as this draft represented a major effort to design a legal framework for environmental protection and management.



We need to evaluate the environmental input as a policy requirement of the planning machinery in Kenya. At independence Kenya drew up its first political and ideological blue-print.<sup>48</sup> In this document the environmental input was expressly stated to be one of the objectives of African socialism. The paper stated:-

"Practices tending to harm rather than to conserve our physical environment must be curbed through education and legislation"<sup>49</sup>, and that:-

"The heritage of future generations depends on the adoption and implementation of policies designed to conserve natural resources and create the physical environment in which progress can be enjoyed.... The stage has been reached when the concern for the quality of the environment must be put on equal footing with the need for its exploitation"<sup>50</sup>

It was not until the early 1970s that the concern with the environment again became a major issue. This was in response to the United Nations General Assembly Resolutions on Environment.<sup>51</sup> In its report to the then forthcoming Stockholm Conference, the government reviewed its environmental problems and proposed steps at the legislative and administrative levels that would be taken to ensure the resolution of these problems.<sup>52</sup>

These policy pronouncements have often not been fulfilled with policy implementation. Thus the Report on Environment and Development<sup>53</sup> noted that it was important to revise the relevant legislation to incorporate requirements that environmental considerations are taken into account in the execution of responsibilities by departments, as no firm basis for this to be done exists<sup>54</sup> and added that the successful administration of environmental provisions could only succeed if there was a general policy on the national level to which they can relate"<sup>55</sup>

There is agreement in many ministries and departments that a policy on the environment is a priority, and that:

"Government policies or rather the lack of them help to accelerate the process of decertification"<sup>56</sup>

The NES reinforced this view by stating that the problems of landlessness and growing populations were becoming worse in the absence of clear policies.<sup>57</sup> NES further stated that work had already begun in Kenya on the introduction of the E.I.A requirement, but added:

"For now, suffice it to say that such a scheme may not bear fruits so long as it will have to operate in the absence of a clear and broad environment policy"<sup>58</sup>

To move to the more concrete examination of "environment policy" as it exists in Kenya, we can examine environmental management in relation to the framework of government policy as set out in the various development plans.

The **1974-78 Development Plan**<sup>59</sup> included for the first time a section on environment protection. The reference to environment was in chapter nine, entitled "**The Environment and its Conservation**". Unfortunately, no methodology or programme for the incorporation of environmental considerations into the planning process was set out. The chapter did not define procedures or regulations to carry out the integration of the environmental factors into planning. Instead it gave each agency the responsibility for its own environmental planning activities. The absence of established procedures, or a formal requirement for E.I.A, excluded economic any incentive for an agency to take responsibility for E.I.A. Thus, government agencies had much discretion. To maintain their own power, government agencies have chosen to ignore the call for E.I.A procedures.<sup>60</sup>

The **1974 - 1978 Development Plan** also reflected the lack of government support for E.I.A. Chapter nine highlights economic expansion as a major objective. It goes further to point out that any measures that would have the effect of slowing down the process of economic expansion would not be acceptable. Thus the notion about E.I.A causing

delay in the pace of the economic development process is supported by the government's own perception of the link between the environment and economic growth.<sup>61</sup>

The **1979 -1983 Development Plan**<sup>62</sup> expanded the chapter on environment and defined it more tightly. In the various programme chapters of the plan, environmental input became a requirement of the planning machinery of the nation. It was stated that:-

"Environmental considerations must come to pervade development decisions taken at every level from family to government...."<sup>63</sup>.

Unfortunately, policies suffer considerable frustration and may not be effective in the absence of a legislative requirement.<sup>64</sup> This is clearly illustrated by the workings of the Interministerial committee on Environment (IMCE), chaired by NES. Despite its existence, many departments and agencies seem to prefer to take important decisions unilaterally rather than within the framework of the I.M.C.E.<sup>65</sup> Since NES is not a policy making organ, only Parliament can ameliorate the existing situation by passing legislation that will enforce compliance.<sup>66</sup>

Although the 1979-1983 plan did not specifically mention E.I.A, it said:

"Hence, environmental considerations must be entertained at the planning stage in order to ensure that the pattern and style of development is consistent with a healthy environment"<sup>67</sup>;

and;

"The second main instrument of environmental control is preventive in character. A system of environmental impact Reports will be introduced. All major proposed government, parastatal and private projects will be modified before implementation to ensure observance of environmental standards."<sup>68</sup>

Both these paragraphs contain elements of E.I.A. E.I.A was already being implemented by NES, albeit in a modest way. The Development Plan probably intended the legal institutionalization of E.I.A, which has not been done to-date. NEEMA was, in fact, proposed as a means of achieving this objective. In the absence of a law such as NEEMA there is no legal framework for environmental protection initiatives.<sup>69</sup>

The **1984 - 1988 Development Plan** <sup>70</sup> recognized the environment-development connection by stating:

"The main concerns with environment at this stage of our development is to control human behaviour so as to achieve a balance between the development needs of the nation and the enhancement and protection of the environment"<sup>71</sup>

**Sessional Paper No. 1 of 1986**, entitled **Economic Management for Renewed Growth**<sup>72</sup>, sets out economic policy for the **1989-1993 Development Plan** to follow. It stresses that economic growth must be a primary concern for economic policy, and notes that such development will put additional strain on Kenya's natural resources.<sup>73</sup> **The 1989-1993 Development Plan**<sup>74</sup> reiterates Kenya's basic policy concerning the conservation of the environment. Environmental management is seen as a major factor in the long term development process.

The Plan recognizes that past development activities have often ignored the social costs arising from uncontrolled environmental degradation.

It identifies E.I.A as one of the strategies through which sound environmental management can be achieved. It also calls for the formulation of a sessional paper on the environment to set up comprehensive guidelines for achieving sustainable development.<sup>75</sup>

Following the **1989-1993 Development Plan**, a draft sessional paper entitled **Environment and Development 1989**<sup>76</sup> was prepared by the Ministry of Natural

Resources and Environment (M.E.N.R) and NES. This paper reiterated some of the issues already discussed in this study. Firstly, the paper noted that there was a lack of a comprehensive policy on environmental management and protection. Secondly, the paper highlighted the fact that what goes by the name environmental legislation is merely legislation **affecting** the environment, rather than dealing with aspects of it. As such, the legislation was inadequate and insufficient. Thirdly, the Paper points out that the existing legislation does not have norms in terms of principles and standards, written into legislation. Finally, the absence of E.I.A is seen as working against any attempts made towards sound environmental management.<sup>78</sup>

The current **Development Plan 1994-1996**.<sup>79</sup> dedicates chapter nine to the environment. This chapter is entitled "**Environment and Resources management for sustainable Development**". In this chapter a permanent commitment towards the transition to sustainable development is made. This commitment was to be effected through the National Environment Action Plan (NEAP), which was scheduled to become available by mid- 1994.<sup>80</sup> This time the Plan outlines elements of E.I.A in certain terms. The government is to develop the necessary tools to assess and anticipate the impact of development programmes and activities. Measures taken are to include:-

"...the prior assessment of the likely environmental impact of major economic and sectoral policies, plans, programmes and projects.

"...the prior assessment of the likely economic impact of environmental measures and, the prior assessment of the likely... equity impact of both. All three approaches are needed to support and achieve development that is economically, ecologically and socially sustainable" <sup>81</sup>

As regards sustainable industrial development the 1994-1996 Plan concedes that although renewed industrial growth is a top priority of government, renewed growth will have to come to terms with new rules and standards for environmental protection, especially with regard to industrial emissions, resource use, waste disposal and conditions in the workplace.<sup>82</sup>

Chapter 14 of the current Development Plan is reserved for E.I.A.<sup>83</sup> The Development Plan recognizes that E.I.A. is critical in the progress towards sustainable development. The Plan further recognizes the inadequacies in terms of methodology and coverage of the existing E.I.A system. A more effective scheme is to be set out in the National Environment Action Plan (NEAP). We can only hope that these promising pronouncements of policy will be readily translated into specific enforceable norms.

Kenya is now a multi-party state, with the **Kenya African National Union (K.A.N.U)** as the ruling party. Other parties include **Ford-Kenya** and the **Democratic Party**. All these parties have set out their environmental policies.



The KANU manifesto talks of the Government taking all the necessary measures to safeguard the natural environment on which human survival and welfare depends.<sup>84</sup> The KANU manifesto and constitution show an appreciation of the seriousness of the environmental problems facing Kenya, and express commitment to change.<sup>85</sup> However, as stated earlier, policy pronouncement is usually not readily coupled with policy implementation.

**FORD-Kenya** expresses the object "to protect conserve and improve the management of the environment and natural resources"<sup>86</sup> The Democratic party documents are similar to those of KANU and FORD-Kenya. All these parties are agreed on the urgency of environmental conservation. It can only be hoped that these political parties will be able to work together towards creating a firm basis for public endeavours in environmental management and protection. The effectiveness of these policy declarations ultimately depends on their mode of implementation.

From the analysis of Kenya's environmental policy as it exists, two things are apparent. Firstly, there is a serious lack of comprehensive policies on environmental management. Secondly, for policy to be effective it should be translated into enforceable norms.

## 2:2:2 ENVIRONMENTAL LEGISLATION

Law, in most cases, is the best way of implementing policy, as it offers a variety of authoritative methods to implement policy. Our attention will be focused on the laws concerned with water pollution and air pollution.

In Kenya legal provisions which affect the environment are scattered in more than sixty-six statutes.<sup>88</sup> These statutes are fragmentary and sectorial in nature, each touching on the environment, but very few specifically being concerned with its conservation and proper management. In other words, none of the legislation was formulated with the direct object of environmental management and protection.<sup>89</sup>

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The inadequacy of the existing legislation can be explained. Most of the laws which affect the environment were enacted during the colonial period. These laws have not been amended to reflect the existing socio-economic realities<sup>90</sup>. Colonial resource policy was primarily based on the need to exclusively exploit the natural resources, and conservation and enhancement of those resources was hardly a priority. These enactments are almost exclusively prohibitory in approach.<sup>91</sup> Yet environmental protection is a positive rather than a negative concept. In this scenario, it may be concluded that the existing legislation is quite inappropriate in many respects.

Turning more specifically to the issue at hand, we find that there is no separate legislation to regulate industrial activities that have an impact on water quality or that cause air pollution. In our discussion we will analyze the **Water Act**<sup>92</sup>, to appreciate its bearings on water pollution control. Air pollution will be dealt with through an examination of various statutes. These include the **Public Health Act**<sup>93</sup>, the **Factories Act Amendment Act 1990**<sup>94</sup>, the **Penal Code**,<sup>95</sup> and the **Mining Act**.<sup>96</sup>

(i) **LEGISLATION RELEVANT TO WATER RESOURCES**

The statutory provisions governing the management of water resources is basically the Water Act. The purpose of the Water Act, according to the long title, is to make better provisions for the conservation, control, apportionment and use of the water resources of Kenya.

The overall power for the control of every body of water is exercised by the Minister. The Minister and the Director of Water Resources, in consultation with the water catchment Boards, promote conservation and proper use of water resources throughout Kenya.<sup>97</sup>

The functions of the catchment Boards include apportionment and use of the existing and potential water supplies, and the issue, adjustment, cancellation or alteration of licenses, the prescriptions of or the issue of permits relating to water utilization.<sup>98</sup>

Protection of water supply is clearly a critical issue under the Act. In section 145(1) the Minister can appoint a water undertaker to be responsible for control and distribution in a given area. The undertaker can make regulations where he thinks it necessary to do so, "for the purpose of protecting against pollution any water which for the time being he is authorized to take".

A cursory look at section 145(1) may suggest that it provides a safeguard. However a closer look reveals two things. Firstly, the section does not cover every body of water that is likely to be subjected to pollution or degradation. It covers only that body of water over which the undertaker is for the time being given authority. The limitations of such an approach are obvious. Secondly, the section does not prescribe any environmental standards subject to which all water uses must be made.<sup>99</sup> Under section 145(1) it is an offence to pollute any source of water supply used or likely to be used for human consumption or domestic purposes. There are certain exceptions to this section whereby a perpetrator of pollution is not liable under the Act.

Firstly, the perpetrator is not liable under the Act if he is practising a lawful method of cultivation of land, or watering of stock, and the agricultural method is ordinarily regarded as good husbandry. Similarly, it is not prohibited if the perpetrator is involved in reasonable use of oil, tar or other substances on any highway or road and reasonable steps have been taken to prevent pollution. Finally, it is not an offence to dispose of wastes or effluent in any area which the Minister may have specified. Indeed the categories of waste that fall under these exemptions may be criminal, and may have caused actual physical suffering to human health.<sup>100</sup> These exemptions should be reviewed with a view of ascertaining whether they are acceptable.

A person who releases any substances in contravention of the Act is liable to a penalty. The culprit, on the first offence, is liable to a fine not exceeding five thousand shillings, or a prison term of nine months. On a second offence, the fine is a maximum of ten thousand shillings or a prison term of twelve months. Such a culprit shall be responsible for any construction works to prevent further pollution. Any plant or machinery used in the polluting work may also be confiscated and costs incurred recovered through a Court of Law.<sup>101</sup>

The penalties in the Water Act are not deterrent to the potential polluters. Criminal sanctions in water pollution control legislation should be reconsidered and strengthened. Criminal sanctions should be applied to anyone who pollutes any body of water. As the

Act stands at the moment it may be easier/cheaper to pollute and pay rather than take preventive measures. This is because the penalties are not stiff enough. The amount of fine imposed would probably not intimidate a commercial operator, and should therefore be reviewed.

The Minister may make rules for the efficient promotion of the objectives of the Act. Such rules may provide a penalty for any contravention of such rules; the penalties include: a fine not exceeding five thousand shillings or a prison term not exceeding three months. These rules, **the Water (General) Rules**, are made under section 182 of the Act, and are far more significant regarding water quality.

Rules 38(e) and 40 require that where a project "is liable to cause pollution", any application for the diversion or abstraction of such water must include details of the planned water use, and measures envisaged for the disposal of any waste or effluent as provided in rule 48.

The rules go much further than the substantive provisions of the Act discussed above as regards to water quality, in two respects. Firstly, they provide for the prevention of pollution to the water, and secondly, they provide the necessary remedial measures.<sup>102</sup>

EIA topologies can also be identified in three respects:

- i) the prevention of pollution is legislated as a norm underlying all uses of water;
- ii) before a permit is issued for the use of such water, impacts arising from such use must be identified;
- iii) the measures to be used for the disposal of effluent have to be indicated.<sup>103</sup>

There are specific provisions under the Rule for the enforcement of each of these three aspects. Under the first aspect, Rule 71 subjects all operations under the Water Act to the provisions of the Public Health Act<sup>104</sup> and the Malaria Act.<sup>105</sup> This link recognizes the inter-relationship between various resource factors.

With regard to the subjection of the Water Act to the Public Health Act, water is specifically protected under section 129. This section empowers local medical authorities to take all lawful action, or necessary and reasonably practicable measures, to prevent any water pollution dangerous to health, and to purify any supply which has become polluted.

On paper, this link between the two statutes is a unique arrangement. In practice, it does not operate as smoothly. For example, the Ministry of Health does not see the Water Act as giving it authority over Industrial pollution. On the other hand, the Ministry of Health does not think that it was ever intended that the decisions that may be taken under the Health Act should be superior to those taken under the Water Act.<sup>106</sup>

The second aspect identified under the rules concerns the identification of impacts. Item 18 of Form No. W.A.B 13, required to be used in an application for a water permit, provides the method for such identification. The applicant is, under that item, required to state whether the water applied for will be used for any purpose or process that will foul it, or cause it to be injurious to public health, to stock, to fish or to crops, or to gardens irrigated using such water.

Finally, the same Form No. W.A.B. 13, describes fully what steps will be taken to render the effluent and residue harmless before returning the water to the stream. These are the remedial measures. Rules 72, 73, 74 and 75 provide in detail for the purification of water before it is returned to the body of water from which it was diverted or abstracted. Failure to purify the water is an offence.<sup>107</sup> Rules 77 to 80 prohibit the introduction into anybody of water of matters harmful to fish.



Section 82(2) of the Water Act provides that the use of water for domestic purposes shall take precedence over the use of water for any other purposes. The water Apportionments Board is granted the power to reserve any body of water which is required for domestic purposes.

The Water Resources Authority (WRA) is provided for under section 19 of the Water Act. It is supposed to be the central policy-making and recommending body under the Act, and has been given wide ranging powers<sup>108</sup> to enable it to carry out those functions. These include obtaining information to enable the authority to carry out its duties. Okoth-Obbo<sup>109</sup> comments that the exact position today regarding the WRA is not clear. After the Ministry of Water Development was set up, the functions of the WRA have been carried out by the Director of Water Development.

Section 22 provides that the WRA shall divide Kenya into catchment areas and may from time to time, subdivide or amend such catchment areas. There are currently six such catchment Boards all enjoined to advise the Water Apportionment Board on:-

- a) the apportionment and use of existing and potential water supply;
- b) the adjustment, cancellation or alteration of any licence, sanction or permit.<sup>110</sup>

Regional water committees are also set up for each province to advise the Minister and WRA.<sup>111</sup>

The Water Apportionment Board (WAB) is the instrument established for the implementation of the environmental objectives of the Water Act. It is in its methodologies for carrying out these objectives, that more explicit EIA topologies are seen.

The Act specifies three categories of purposes regarding the use of surface water. Section 35 sets out the first category for which a permit may be required. This includes: domestic purposes, public purposes, a minor irrigation purpose, an industrial purpose, a power purpose, a general irrigation purpose, and any other purpose approved by the WRA.

The second category concerns purposes for which a permit is not required and these are laid down in section 38. They include, water for domestic purposes, works for the development of ground water if they are not situated within a hundred yards of any body of surface water, and water for storage in or abstraction from a dam constructed in any channel or depression which has been declared not to be a water course under section 31 of the Act. For the third and final category, section 36(1) provides that in all cases of proposed diversion, abstraction, obstruction, storage or use of a body of water other than

those in the categories referred to in section 38, an application must be made for a permit.

Okoth-Obbo<sup>112</sup> comments that parallels can be drawn between the scheme set out here, and the requirement under formal EIA for impact statements to be prepared prior to authorization. For those categories of uses which do not appear, on preliminary assessment, to affect the qualitative and quantitative aspects of a body of water, no permit is required. For those uses deemed to affect the quality or quantity of the water, a permit is required. To analyze more closely the implementation of the Water Act we will consider a number of issues. These are: the application for the permit, consideration of the application, and the issue of the permit.

In cases where a water permit is required, section 78 requires intending water users to file with the WAB an application in the prescribed form. This provision requires the description in full, of the intended project. Where the application is concerned with the use of surface water, the prescribed form for the application is Form WAB 13.

Form WAB 13 is arranged in four parts. Part I relates to the biographical details (for example, the body of water to be used and the points of abstraction or diversion or use). Part II calls for details pertaining to the purposes and quantity for which the application

is made. Part III seeks particulars on the method of diversion. Part IV is a general part and relates to administrative information.

Okoth-Obbo <sup>113</sup> comments, and correctly so, that if these requirements were pursued to the letter it would enable, first, the intended project to be described in full. Secondly, the impact of the project on the quantitative and qualitative condition of the water would also be described. Thirdly, there would also be a description of the measures which can be taken to mitigate the adverse environmental impacts.

Although parallels can be drawn between the scheme set out here and EIA requirements, in two respects the process falls short of EIA. First, although the applicant is required to indicate measures for the mitigating of adverse impacts, he is nowhere required to set out the predicted impacts of these measures. Secondly, there is no requirement to put forward alternatives to the proposed action.<sup>114</sup>

Applications for a permit are normally routed through the Catchment Boards, which are composed of officers and people living in those areas and have special knowledge of such areas. The application is then forwarded to the WAB with appropriate recommendations. The WAB has power to amend or vary the application, or its map or plan, or require further particulars. Under section 84, where conditional approval is given, the applicant has to cause a notice to be published in a local newspaper and the official gazette within

21 days. After the application has been published the WAB has to invite objections, which must come within 30 days from the publication of the notice. A copy of the objection shall be served on the applicant.<sup>115</sup>

Under section 85(1) anybody may file an objection, and if the WAB find the grounds sufficient to warrant public inquiry, it shall fix a day for holding such inquiry. Following the inquiry the WAB may either dismiss the objection, direct the applicant to amend his application or dismiss the application. It is only after the consideration of the objection that the WAB may either refuse the application, approve it in part only, or approve it in full.<sup>116</sup>

A study carried out to analyze the objections that have been handled by the Ministry of Water Development revealed that none was brought on strictly environmental questions.<sup>117</sup>

A project may only be implemented after the permit has been finally approved and an authorization issued.<sup>118</sup> This authorization is contained in Form WAB 16. With the issue of the permit the WAB is enjoined to continuously assess and monitor water abstraction, use and storage, and the circumstances surrounding such activities and their impacts.<sup>119</sup>

In all these cases, the WAB may either press for prosecution, or vary or cancel the permit. The Water Act thus allows for the project to be enjoined or modified either because of breach of the explicit terms of the original permit, or because of supervising circumstances.

The analysis of the Water Act given above is a brief one. But from this analysis a few points do emerge. Firstly, the Water Act does not provide for standards that are to be maintained. Furthermore, the criminal element in water pollution should also be reconsidered and strengthened. It has been suggested that criminal sanctions should be applied to anyone who pollutes any body of water.<sup>120</sup> Most of the penalties in the current statute are not deterrent to the potential polluters. Thirdly, the EIA topologies in the Water Act are not adequate to facilitate the protection of water resources.

The effects of the polluting industries already outlined in a previous section of the thesis highlight the failure of the Water Act to prevent water pollution. What is apparent is that there is an urgent need for EIA to act as a precautionary measure.

(ii) **LEGISLATION CONCERNED WITH AIR POLLUTION**

The statutory provisions relating to Air pollution are found in the Penal Code,<sup>121</sup> the Traffic Act,<sup>122</sup> the Factories Act<sup>123</sup>,<sup>124</sup> The Factories Amendment Act 1990, the Public Health Act,<sup>125</sup> and the Mining Act<sup>126</sup>.

Under section 192 of the **Penal Code** any person who releases vitiates emissions into the atmosphere thereby endangering human health, is guilty of a misdemeanor. Such a person shall be punishable by imprisonment for one year. Section 193 applies to any trade whose effect is to create nuisance or unwholesome smell. The punishment under section 192 applies here.

The Penal Code does not mention the problem of air pollution as such. It is included within the offence of nuisance.

**The Public Health Act** borrows heavily from the common law doctrine of nuisance. The Act makes it an offence for any landowner or occupier to allow nuisance or any other condition liable to be injurious or dangerous to health, to exist on his land.<sup>127</sup> What constitutes nuisance is broadly described to include, smell, accumulation of waste or refuse, and factories emitting smoke or smell.<sup>128</sup>

A medical officer of health may issue an order requiring the owner or occupier of the land to remove the nuisance. Where the landowner fails to comply the medical officer shall cause a complaint relating to the nuisance to be presented before a magistrate. The Court may impose a fine not exceeding two hundred shillings, in addition to the costs incurred in the proceedings. The Court may also order removal of the nuisance, and failure to comply with this order may lead to an additional fine not exceeding two hundred shillings.<sup>129</sup>

Any person who fails to comply with a closure order or the direction to remove a nuisance, is guilty of an offence and upon conviction, liable to a fine not exceeding eighty shillings for every day during which the default continues.<sup>130</sup>

Although the Public Health Act makes it an offence to, for example, emit noxious fumes in the air, it does not state when such emission can or shall be deemed to be noxious or injurious. In other words the legislation does not set standards against which actions can be measured. The Public Health Act, like the Penal Code, does not mention air pollution as such.

The fines imposed by the Public Health Act are paltry and in most cases any perpetrator will be glad to pay and go home satisfied. In other words, the legislation is not effective as the penalties fixed are not deterrent in nature.<sup>131</sup>



The **Factories Act of 1962**, revised in 1972, specifically applies to the protection of persons employed in the factory from injuries within the working environment.

The amendment adopted in 1990 specifically prohibits factories from emitting fumes, dust and other impurities into the atmosphere, without effecting appropriate treatment to prevent air pollution, or other ill effects on life and property. The amendment further prohibits the use of any stationary internal combustion engine which discharges exhaust gas into the atmosphere without prior treatment to prevent air pollution or any ill effects on life or property. This provision is akin to the provisions for nuisance under the Public Health Act.

The 1990 Amendment imposes on a defaulter a fine not exceeding ten thousand shillings, or penalty of three months imprisonment, or such fine and imprisonment. Should the contravention continue after the conviction, the offender is liable to a further fine, not exceeding one thousand shillings per day on which the offence continues.<sup>132</sup>

The Factories Act and the 1990 amendments are not appropriate for the control of emissions. It is confined to the internal working environment. While the Factory Inspector may take the health of the workers within the internal environment seriously, he is entirely unconcerned with the effects of the emissions on the air quality.<sup>133</sup> It is thus

necessary to widen the scope to cover both internal and external hazards related to industrial operations. In its present form the legislation can hardly be said to be adequate.

Air pollution as a manifestation of nuisance, is also prohibited under **The Mining Act**, initially adopted in 1972 and revised in 1987.

Section 26 requires a holder of a prospecting or mining licence who causes nuisance or damage to a landowner or lawful occupier, to pay reasonable compensation for such nuisance or damage. Should the licensee or his successor fail to pay satisfactory compensation, the matter can be referred to Court by the landowner or occupier. The Court shall assess and determine the appropriate compensation. Such a fine has to be paid within 14 days of the award.

Under section 27, where the licensee fails to pay, the Minister may suspend the licensee and compel payment. In the end the Minister may also revoke the permit and thereby all privileges and rights conferred under the permit will cease.

As with the Factories Act, the Inspector of Mines is only concerned with safety regulations in the open cast and underground workings, but not with the pollution of the atmosphere. There is thus no control over the dust that gets into the atmosphere.

The Mining Act is a particularly voluminous document; but it is interesting to note that nowhere does it mention the issue of depletion of the natural resources which are being mined. The Act is not in anyway concerned with the control of the natural resources to which it applies. To this extent the Act is seriously inappropriate for purposes of environmental regulation and protection.

The prohibition of air pollution is also covered under the **Traffic Act**. It is implied in section 51 of the act which requires that motor vehicles use proper fuel, which may be construed to imply avoiding pollution. Whoever contravenes that provision is liable to a fine not exceeding ten thousand shillings, or in default, a prison term not exceeding three years, or both.

Section 51 is quite ambiguous. It does not define "proper fuel" thereby rendering the section virtually useless as no specific standards are referred to. Furthermore, in practice, the kind of fuel used in Kenya to date still has an unacceptable amount of lead in it. There is a need to develop policy guidelines in this question.

A more direct provision is found in **The Traffic Rules** promulgated under the Act. Therein, every vehicle is required to be so constructed, maintained and used that it does not emit any smoke or visible vapour.

The penalty for violation of that rule is, for a first conviction, a fine not exceeding ten thousand shillings, or imprisonment for a term not exceeding six months. On subsequent conviction for the offence, the violator is liable to a fine not exceeding twenty thousand shillings, or imprisonment for a term not exceeding one year, or both.

A draft Clean Air Bill, 1992 has been prepared.<sup>134</sup> It is entitled "A Bill for an Act of Parliament for the conservation of air quality, prevention and control of air pollution and related purposes".

Under clause 14(a) of the draft bill entitled "Regulations", the Minister may prescribe ambient air quality standards specifying the maximum permissible concentration of any matter that may be present in or discharged into the atmosphere. We can only hope that, with the passing of such legislation, the air quality will be greatly improved.

### **2:2:3 CONCLUSIONS**

The legislation briefly analyzed above is illustrative of some of the major weaknesses in the existing framework for environmental protection. Firstly, standards that have to be adhered to are not set out. Secondly, where penalties are prescribed they are often paltry, and therefore ineffective, as most offenders do not mind creating the harm and thereafter paying the fine. Thirdly, even where the legislation is concerned directly with natural

resources, for example, the Mining Act, no mention is made with regard to the protection of those natural resources which are the subject matter of the Act. The law is not concerned with resources conservation; instead it is exclusively concerned with the exploitation of those resources.

Despite the weaknesses pointed out here, one pertinent issue should be highlighted. The weaknesses addressed in the legislation mainly relate to the substantive provisions; that is, the provisions are not adequate, effective or directly concerned with environmental management. However, there are instances where legislation is appropriate but implementation is ineffective. This phenomenon is worth noting. For example, provisions of the Water Act and the Local Government Act could go a long way towards reducing environmental degradation. But pollution has gone on undeterred, and rarely does one hear of a court action by the concerned officials. There is a certain degree of apathy in the line ministries and the departments.

What this means is that whatever legislative amendments are suggested, the question of ineffective implementation, rather than ineffective legislation, should be kept in mind.

2:3

**THE INSTITUTIONAL FRAMEWORK FOR THE  
IMPLEMENTATION OF E.I.A UNDER THE NATIONAL  
ENVIRONMENT SECRETARIAT (NES)**

This section represents an evaluation of the role of NES in the promotion of E.I.A in Kenya. It will demonstrate that the degree to which E.I.A is effective hinges significantly on institutional structures, and the manner in which the existing planning process responds to EIA. We will examine the strategies adopted by NES to institutionalize EIA in Kenya.

In our approach case studies will be used. We will evaluate the response of the Tana and Athi River Development Authority (TARDA) to EIA in its water resource development activities. TARDA is the largest water resource development agency in Kenya. NES's role in co-ordinating the EIA process, and more specifically EIA implementation for industrial projects in Kenya, is evaluated by considering the planning of a tannery project as a case study. These case studies are intended to illustrate strategies used to legitimize EIA policies and practices. The chapter will conclude with an evaluation of EIA under the NES.

## **2:3:1 FORMATION AND COMPETENCE OF THE NATIONAL ENVIRONMENT**

### **SECRETARIAT**

National environmental matters were addressed formally for the first time in Kenya in 1971, by the working Committee on the Human Environment (WCHE) which was preparing for the 1972 United Nations Conference on the Human Environment (UNCHE). The WCHE drafted Kenya's report for the UNCHE, which was well received at the preparatory meeting in 1971 at Founex, Switzerland.<sup>135</sup>

Following the positive response to Kenya's report at Founex, the Ministry of Natural Resources requested that the Kenyan cabinet establish a full time secretariat specifically for assisting in the final preparation for the UNCHE and to coordinate all environmental activities.<sup>136</sup> The request was approved by a Cabinet Resolution of December 3, 1971.

The sole task with which the NES was charged, and which every NES publication<sup>137</sup> recites, was to coordinate the Kenya Government effort in environmental matters. However, exactly what was meant by "Coordination" was not clear. The circular did not define the detailed functions and the structure of NES.

Okoth-Obbo<sup>138</sup> makes an effort to clarify the functions of NES as envisaged in the circular. At the time of the creation of NES there was no specific government department

or agency exclusively charged with the task of coordinating environmental policies at national level. Instead, each agency had powers and duties to formulate and implement environmental policies so far as their respective resources sectors were concerned.

Okoth-Obbo suggests that, in this scenario, NES was to exclusively take over the function of inter-departmental co-ordination. He further points out that this development did not in itself call for criticism, but for one important shortcoming. The circular did not spell out for NES any implementation powers. These were left to the various departments and parastatals which were already exercising various powers of management with respect to the environment. This meant that NES's role was to remain passive and vague.

The NES has been located both in the Office of the President (OP) and the Ministry of Environment and Natural Resources (MENR). NES was located in the Office of the President in February 1974 after it was formally established by an Administrative circular. The location of NES to the OP appeared to be an elevation in its stature,<sup>139</sup>

Under the OP, the official goals of NES were to promote greater environmental awareness in Kenya, and to co-ordinate the use of the nations's productive resources. But under the work of a co-ordinating agency, the actual role of NES remained vague.



In 1978, Jomo Kenyatta, the first Kenyan President, died and the Vice President, Daniel arap Moi succeeded him. President Moi assumed office and re-shaped the Cabinet. President Moi's new government replaced the Ministry of Natural Resources with the Ministry of Environment and Natural Resources (MENR), to which NES was transferred.<sup>140</sup>

Although the transfer of NES to the MENR seemed logical and appeared to enhance its position, it gained no further influence over other government agencies. While NES's official role remained the same under the MENR, the transfer was accompanied by a loss of both flexibility and autonomy. Although NES lacked power in the Office of the President, it had more control of its activities. Following the transfer, NES was compelled to follow the dictates of the MENR bureaucracy. This remains true today.<sup>141</sup>

Soon after the transfer to MENR, however, NES spelt out its functions to include implementation. The requirement for formal EIA made its appearance in the elaboration of these powers. Excerpts from NES's 1981 **Statement of Role and Functions** included phrases such as:

".....assessing and evaluating activities on the environment" <sup>142</sup>

NES, over time, grew into an elaborately structured organisation, with several units and divisions.<sup>143</sup> What is of concern to us is the Planning and Environmental Impact Assessment (PA) unit whose function is:

"Appraising selected industrial and other projects and project proposals for their environmental soundness through the Environment Impact Assessment process, and advising on measures to be taken in this regard".<sup>144</sup>

The PA unit was also to advise the **New Projects Committee** in the Ministry of Commerce and Industry and project financing institutions, on the environmental factors to be taken into account prior to the approval of any projects.<sup>145</sup>

The word used in the paragraph relating to the functions of NES is "advise". NES does not have power to approve or disapprove the project. In a subsequent section we will analyse what the actual impact of the advise has amounted to in practice.

## **2:3:2 THE CONTEXT OF THE NATIONAL ENVIRONMENT**

### **SECRETARIAT'S (NES) OPERATIONS**

In practice, when an application reaches NES, it has to be determined whether the activity is one of those for which an environmental impact report (EIR) is required. NES

has determined six categories of operations for which EIR is required.<sup>146</sup> These are where a project is:

- (a) likely to destroy soil, water, air or flora and fauna;
- (b) involves the production or use of chemicals or other toxic substances;
- (c) impinges and has several impacts on a large number of persons;
- (d) entails major land use practices;
- (e) has or is likely to have an impact on socio-cultural values; or
- (f) is likely to cause nuisance.

Where an activity falls within any of these categories, then NES addresses to the proponent a Request for Environment Impact Report of Development Activities (REIRDA), which requires the proponent of the project to submit an EIR containing the whole range of the proponent's activities.<sup>147</sup> Ideally the EIR is to be presented two months before presentation of the project proposals to the new Projects committee.<sup>148</sup>

A REIRDA may also be issued in the case of existing activities and intended major expansions.<sup>149</sup>

In this sub-section we review NES's effectiveness in promoting environmental protection in both the public and private sectors. We will consider to what extent NES has requested and received the required information on proposed projects, and influenced the eventual outcome.

(i) **NES's IMPACT ON THE PUBLIC SECTOR, THE MINISTRIES  
AND RELATED AGENCIES**

The 1983 "Guidelines for the Preparation Appraisal and Approval of New Public Sector Investments" required that NES review the environmental impact of all new public sector projects. Similarly, the 1984 - 1988 Development Plan granted NES the administrative authority to enforce the EIA requirements in all new public and private sector projects.

In practice, NES's efforts to promote EIA in the public sector have not been successful. This is largely because the concerned agencies have not cooperated in bringing their projects to NES's attention and NES does not have any legal basis to enforce its requirements.

To authenticate these claims we can analyse NES's relationship with public agencies further. We have already stated that the PA unit of NES has the task of advising the Ministry of Commerce and Industry's New Project Committee on any new projects. In reality NES has no impact whatsoever on this committee.

The explanation for this is twofold. Firstly, the word used in the paragraph relating to the functions of NES is "advise", and therefore NES does not possess power to approve the project. Secondly, the new projects committee itself is essentially interested only in the commercial considerations of the project. NES is not represented in the committee at all. The committee considers projects on the basis of a document entitled Application to the Projects Committee for Approval For An Industrial Project. In this document, only one paragraph relates to the environment, and even this does not seek detailed information.<sup>150</sup>

We see that NES does not have any influence over the Ministry of Commerce and Industry, because the structure of the New Projects Committee and the procedures followed therein do not allow NES to have any role.

Early in 1981, NES formed the Inter-Ministerial Committee on the Environment (IMCE) to enhance the participation of the government at UNEP.<sup>151</sup> After its unsuccessful bid to

enact NEEMA, NES began using the IMCE as a forum for exerting its influence over other agencies.

The IMCE is charged with the task of coordinating all government operations that are environmentally significant. **(Figure 3 Annex 5 illustrates the composition of the IMCE)**. Without doubt, all environmental problems cut across the traditional sectoral ministries, and thus coordination becomes vital.

The IMCE is perhaps the most effective tool that NES can use to influence the decisions that government agencies take and that impact on the environment. The IMCE is supposed to be a policy body responsible for setting the government's policy. The role that IMCE is supposed to play in formulating policy on impact assessment led to the formation of the Impact Assessment Committee (IAC).<sup>151</sup>

The IAC is specifically set up to consider impact reports. The members of the committee are from the line ministries. The rest of the membership of the IAC varies depending on the project to be considered. Those to be involved include the proponent, the authority or agencies concerned, representatives from the local authority, and members of the public.

Without a strong political or legal mandate, NES has not been able to influence the public development planning activities in Kenya to make them environmentally sensitive. NES has had an impact on a few industrial projects, and this has been possible as a result of its use of a co-optation strategy through the IMCE. Co-optation is defined as a process of participative management and a strategy for social control.<sup>153</sup>

Although the IMCE was created primarily to enhance the participation of the government at the UNEP Governing Council Meetings, after the NEEMA failed to become an Act, NES began directing the IMCE to take on other environmental activities such as reviewing sectoral regulations and laws, and coordinating EIA and pollution control efforts.<sup>154</sup>

The IMCE members are considered to be of equal standing and they all participate in formulating policy, making decisions, and coordinating the implementation of policies. Due to the nature of the IMCE, other agencies gained a better understanding of NES's activities and felt less threatened by them. Consequently, to a certain extent, NES and its activities gained legitimacy.<sup>155</sup>

Gradually, as a result of the growing acceptance, NES began to participate at meetings of other agencies. For example, NES was invited to become part of the "Hides, skins and leather Advisory Committee", a committee organised by the Ministry of Livestock

Development. This committee discussed requirements for siting new tanneries and related pollution control issues.<sup>156</sup>

In November 1982, NES invited representatives of the Ministries of Health, Industry, Water Development and Environment and Natural Resources to discuss the proposed use of the Amboni River Water by the East African Match Company for its paper project.<sup>157</sup> The case was discussed and specific measures regarding pollution control were recommended to the developer. These measures had to be followed before approval could be granted for the project.

This instance demonstrates how NES has been able to use the cooperation of other IMCE members, and the force of their statutes (in this case, the Water Act), to successfully coordinate some pollution control programmes. Previously such pollution control issues would generally have received only the attention of the concerned Ministry, in this case, the Ministry, of Water Development.

Despite NES's partial effectiveness through the IMCE, NES has been unable to carry out any regular comprehensive review of environmental problems. NES has only reacted to the problems brought to its attention by others.<sup>158</sup> NES cannot compel public agencies to bring their proposed Projects to NES's attention where these agencies fail to co-operate, as NES does not have the legal mandate to do so.



The Ministry of Industry (MI), for example, has not been forthcoming in bringing industry projects to NES's attention. All new project proposals are submitted to the MI's New Projects Committee. The chairman of the IMCE made a request to the New Projects Committee to submit a schedule of all proposed new industry applications to the IMCE. The New Projects Committee did not comply. As a consequence, the IMCE meetings for reviewing industrial projects cannot be scheduled ahead of time, and this leads to considerable inefficiency in the operations of the IMCE.<sup>159</sup>

There are many reasons why NES has failed to have impact even in situations when it has sought, and could have, intervened for environmental reasons. Firstly, as stated above, NES does not have a legal basis for its operations.<sup>160</sup> NES assumed responsibility for implementation of EIA without, at the same time, having action-forcing powers. Secondly, vis-a-vis the public agencies, NES has been in an adversarial, non-supportive environment from the onset. This antagonism and the lack of support can be explained in several ways. Many public agencies resent the idea of NES having regulatory powers over their project planning and decision making processes as this would affect the power relations between NES and the agencies. The agencies fear that such a position might lead to a reduction of their powers vis-a-vis NES. These agencies feel that they should be the ones to decide how best to proceed, even dealing with environmental issues. The agencies do not want to lose their discretionary powers, and have therefore not supported NES.

It has been argued that, to a certain extent, the public agencies are justified in their opposition to NES.<sup>161</sup> Okoth-Obbo states that some Ministries raise objection to NES due to its technical incompetence. The Ministry of Transport and Communications doubts the ability of NES, as opposed to the Ministry itself, to competently assess environmental impacts (of road construction, for example), given the specialized knowledge required. The same argument is advanced by the Ministry of Health and the Ministry of Water. NES itself has readily admitted that it does not have adequate technical capacity.<sup>162</sup>

Thirdly, NES has been constrained by its lack of sufficient resources to undertake its activities. NES's resources (staff salaries and operating budget) are approved by the Cabinet, and allocated through the budgets of its parent organization, the MENR. Under MENR, NES's resources have always been restricted. Under its parent organization, the flexibility and autonomy of NES have also been constrained.<sup>163</sup> In a subsequent section we will use case studies to illustrate NES's impact on public agencies.

(ii) **NES's IMPACT ON THE PRIVATE SECTOR**

NES has not been involved in a systematic approach to monitoring and regulation of the activities of the private sector. The approach has been problem-specific. This means that NES has only reacted when a problem has been brought to its attention.<sup>164</sup>

Cases come to NES in a variety of ways. The first way, already stated above, is through the IMCE. In other instances private citizens who are aware of a private project may write to NES. Newspaper stories and direct observation by NES Officers or other members of the IMCE are other ways through which projects that relate to the environment are brought to NES's attention.

After the proposed projects are brought to NES's attention, NES then takes the initiative to gather the relevant data and coordinate the necessary action.<sup>165</sup> Where it is necessary, NES will assign enforcement duties to the appropriate Ministry. However, the fact that NES has assigned enforcement duties to the concerned Ministry does not ensure compliance by that said Ministry, as NES lacks the legal authority to compel that Ministry to act in accordance to NES's direction.

In nearly all the cases relating to the private sector NES has had to rely on the cooperation of the Ministries. While this cooperation is commendable, it also leads to problems, where Ministries do not want to cooperate. In a subsequent section we will use a case study to illustrate how NES deals with public sector projects proposals.

### **2:3:3 THE LEATHER INDUSTRIES OF KENYA (LIK)**

#### **A CASE STUDY**

This section discusses how environmental considerations are integrated in Kenya's industrial planning and decision making and explains factors guiding the application of EIA. It examines EIA implementation in a tannery, **the Leather Industries of Kenya (LIK)**, a private sector project, as a case study.<sup>166</sup> This section summarizes the environmental requirements governing of the industrial planning process. The implementation of EIA for the LIK is discussed. This is followed by a discussion of the effectiveness of the EIA undertaken, and an evaluation of the LIK case study.

#### **(i) THE INDUSTRIAL PLANNING CYCLE**

There are four types of requirements that are part of the industrial planning cycle. These are: industrial application for a new industry, the water permit, industrial site application ,and the Environmental Impact Report.<sup>167</sup>

Proponents of new industrial facilities have to submit an industrial application to the New Projects Committee (N.P.C) of the Ministry of Industry. Although the NPC is mainly concerned with the feasibility and economic benefits of a project, it also requires information on how air and water quality will be affected.

The Ministry of Land Reclamation, Regional and Water Development (MLRWD) IS responsible for the protection of water quality in Kenya. The Ministry of Industry will thus refer the relevant aspects of the proposed project to the M.L.R.W.D Water Pollution Control Department for review. The Water Pollution Department will also review the application for industrial water permits submitted to the Water Apportionment Board.<sup>168</sup>

In Kenya, most lands are owned by the government and organisations are able to lease land to construct industrial facilities. The leasing process for land requires that the applicant submit applications for industrial site to the Commissioner of Lands and the Department of Physical planning of the Ministry of Lands and Settlement. Before the government makes a site allocation, however, it seeks the consent of the local authority concerned.<sup>169</sup>

After reviewing the environmental aspects of a proposed project, NES will issue guidelines on effluent treatment. Thereafter, proponents of the project contact NES directly, and NES follows up by sending the proponent a Request for an Environmental Impact Report of Development Activity (REIRDA),<sup>170</sup> and a proforma for Reporting on Environmental Impacts of Development Activity (PREIDA).<sup>171</sup> NES then collaborates with members of the IMCE to set effluent standards for the proposed facility's waste discharges after the project site is approved.

(ii) **THE LEATHER INDUSTRIES OF KENYA**

In 1980 Industrial Promotion Services (IPS), a private body, launched a study to evaluate the technological feasibility and financial viability of a new tannery in Kenya. The study concluded that a tannery processing hides into finished leather had a high potential as an investment, because of the ready availability of hides and skins, and the growing demand for high quality leather products.<sup>172</sup>

IPS approached potential donors to invest in the LIK as a consortium, and eventually several international agencies, including the World Bank and USAID, invested in the LIK.<sup>173</sup>

In May 1981, IPS submitted the application for the establishment of a new tannery in the Athi River township, to the New Projects Committee. IPS also proposed measures that they would take to treat the waste-water, to reduce pollution. After five months, the LIK proposal was granted a conditional approval by the New Projects Committee.<sup>174</sup>

Two weeks after applying to the NPC, IPS submitted an application for industrial land to the Commissioner of Lands, the Director of Physical Planning and the Athi River Town Council. However, the Athi River Town Council opposed the New Tannery

Project because the two existing tanneries were causing a serious odour problem, and polluting the Kitengela River.

IPS contacted the Water Pollution Control Department of the Ministry of Water Development to discuss standards for effluent discharge. IPS had sensed that the proposal to locate LIK in Athi River Township would be blocked, and therefore IPS requested effluent standards for Athi River Township, Thika Township and Ruiru Township. The Ministry of Water Development requested IPS to contact NES for guidance on the LIK's effluent treatment.

On contacting NES in September 1982,<sup>175</sup> IPS was sent a REIRDA and a copy of the PREIDA. In the Environmental Impact Report that IPS submitted to NES a month later, it proposed Thika as the new location for the LIK. IPS proposed to discharge LIK's partially treated effluent into the municipal sewer of Thika.<sup>176</sup>

The Municipal Council of Thika had reservations similar to those raised by the Athi River Town Council. The Thika Town Clerk argued that the Municipal Sewer System was already over-loaded and the Thika River was polluted from two existing tanneries in Thika. The IPS assured the Thika Municipal Council that the LIK would be implemented in full compliance with NES's guidelines after which the Thika Municipal Council agreed to review the IPS proposal.<sup>177</sup>

An IMCE meeting was convened in February 1983 to discuss the LIK application. The already existing pollution and odour problems of the Thika River were noted. Some members of the IMCE felt that any further discharge into Athi River would compromise water quality in national projects downstream on that River. These members were against the idea of locating the LIK in Thika.

IPS worked hard to defend its proposal by pointing out that it would not only follow all recommendations to avoid further pollution, but also pretreat LIK's effluent before discharging it into the Municipal sewers. IPS furthermore assured the IMCE that the financiers of the projects would not aid the LIK unless the environmental guidelines of the Government of Kenya were also met. IPS felt that this should assure the IMCE of its intentions to comply with all the pollution control requirements of the government.

The following developments highlight some of the constraints mentioned above, that prevent NES from being effective in implementing its objectives. The LIK project had potential for generating foreign exchange. Consequently, the Ministries of Finance and Industry were eager to see the project implemented, and they exerted influence on other IMCE members. For example, the Permanent Secretary of the Ministry of Industry wrote to the Commissioner of Lands requesting that IPS be allocated a suitable site, because of the LIK's potential economic benefits to Kenya. The Ministry of Finance also exerted pressure on members of the IMCE to resolve the LIK's sitting stalemate.<sup>178</sup>



In June 1983 the IMCE met to discuss the specific effluent standards for the LIK tannery in Thika, after the Mayor of Thika agreed to allocate IPS a site for the LIK.<sup>179</sup> In August 1983, the Commissioner of Lands confirmed that a site would be allocated to IPS for the LIK in Thika provided it met the conditions of allocation.<sup>180</sup> Soon thereafter NES sought and obtained from the IPS for more specific information on the LIK's plans for the control of pollution.

After studying the IPS proposals for effluent treatment, the IMCE prepared conditions for water treatment which were to be a part of the conditions of land allotment for the LIK in Thika. According to the conditions LIK was to discharge waste into the Thika River after appropriate treatment was undertaken.<sup>181</sup>

IPS opposed the notion of a river discharge because of the treatment costs involved. IPS argued that discharge into the Municipal Sewers after primary treatment made better economic sense.<sup>182</sup> In response to IPS's position on a direct sewer discharge, the Ministry of Water Development undertook a study to evaluate the performance, loading conditions and available capacity of the Thika Sewer Network and Sewerage Treatment Plant. The study recommended that if certain specific measures were taken, the sewer system could handle an additional inflow of about 500 cubic meters per day.<sup>183</sup>

IPS interpreted the Ministry of Water Development study to mean that, with minor modifications, the Thika Sewer System could expand its capacity and accept effluent from a new tannery. Though IPS persisted in the efforts to seek standards for discharge into Thika's Municipal sewer,<sup>184</sup> NES however held its grounds and questioned the validity of the study conducted by the Ministry of Water Development, arguing that the study ignored certain factors.<sup>185</sup> Realizing that its options were limited, IPS accepted NES's arguments and agreed to the IMCE's standards of discharge into the Thika River.

Thereafter IPS kept NES and the Ministry of Water Development informed on the progress made, after civil engineering consultants were hired to design the treatment plant based on the specified parameters in the effluent standards. The Preliminary Design Report on the LIK's waste water treatment plant was reviewed and approved by the Ministry of Water Development in March 1985. The letter of allotment for the LIK was then signed by the Commissioner of Lands. In August 1986, the LIK began operations.

It should be mentioned here that while IPS was negotiating the LIK's effluent standards with the Government of Kenya agencies, it also had to satisfy the requirements of various donors. The World Bank and the United States Agency for International Development (USAID) both required environmental assessments for projects they funded.<sup>186</sup>

USAID evaluated the environmental impact report IPS prepared for NES, and after reviewing the report concluded that it did not constitute an adequate environmental assessment because at the time of its preparation details relating to the tanning process, location and treatment designs were not available. USAID recommended that IPS make several amendments and use the S.D.A funded 1979 study report <sup>187</sup> as a guideline to estimate effluent characteristics.

In September 1984, the USAID approved the final design of the LIK's waste water treatment plant, and in August after further discussions with the engineering consultants about the plant design, USAID accepted the progress that IPS's consultants had made on the plant design.<sup>188</sup>

## (ii) ANALYSIS OF EIA IMPLEMENTATION IN LIK

The implementation of EIA in LIK is analyzed below using an evaluation framework proposed by **Ortolano, Jenkins and Abracosa**.<sup>189</sup> Ortolano et al describe effective EIA implementation to include the following components:-

- (i) compliance with rules and regulations, and other procedural requirements of a formal EIA exercise;

- (ii) preparation of an adequate EIA document;
- (iii) Utilization of proper methods in assessing environmental impacts;
- (iv) influence of environmental information on various aspects of planning and decision making, including the formulation of adverse impacts; and
- (vi) placement of appropriate weight on environmental impacts relative to economic and technical factors. Each of these dimensions are elaborated below in the context of the LIK.

Under component number one (i) above, the procedural requirements for an EIA process were in place during the planning of the LIK. IPS provided all required documentation and additional information requested on various occasions by the New Projects Committee, the Ministry of Water Development, the Commissioner of Lands and the National Environment Secretariat.

IPS was compelled to pay attention to the environmental impacts of the LIK project because of the donors requirements related to standards that had to be adhered to with regard to the tanning process, the location of the industry and waste treatment designs.

In addition to meeting these requirements stipulated by donors, the IPS also met the requirements specified by NES as to standards of discharge into the Thika River.

Component number two (ii) above relates to the adequacy of the EIA document. NES provides both the REIRDA and PREIDA which outline the conditions for an acceptable EIR. In the case of the LIK, water quality was the primary concern.

The initial EIR submitted to NES was not adequate as it was not based on a specific site, and the process technology to be used in the tannery had not yet been selected. It was only after IPS carried out detailed feasibility studies and provided NES with this information that NES was satisfied that the EIR, supplemented with this additional information, was adequate.

A third dimension for evaluating EIA effectiveness is related to the methods used for assessing environmental impacts. The technology for tannery production processes and methods to evaluate tannery effluent characteristics exist and are well known in Kenya.<sup>190</sup>

IPS used the UNIDO guidelines to estimate the effluent discharge. IPS also used the effluent standards set by the Ministry of Water Development for treated effluent. The final design of the LIK treatment plant was acceptable to NES, the Ministry of Water Development Pollution Control Department and USAID. It can thus be acknowledged

that IPS used acceptable procedures to generate information concerning the environmental effects of the tannery.

We have already established that the environmental information was technically adequate. A question remains as to whether it was used to determine LIK project site and mitigate adverse impacts.

Environmental factors were central to the sitting decision of the LIK. Not only did the considerations prevent the LIK from being located at the Athi River Township, but they were also important in the debate over sitting the tannery in Thika. Moreover, environmental considerations led to rejecting the IPS proposal to discharge into the Thika Municipal sewers and selecting the alternative to discharge into the Thika River.

Finally, appropriate weight was given to environmental factors. IPS was concerned that the costs of discharging effluent direct into the Thika River would be more than that of discharging effluent into the municipal sewers. However NES rejected the cheaper option and IPS had no choice but to undertake complete treatment before discharging into the Thika River. This demonstrates that water quality factors were weighted heavily, in comparison to economic and technical factors, in establishing the LIK.

(iv) **GENERAL COMMENTS ON THE CASE STUDY**

An important question remains here and that is how representative the LIK is of other industrial projects in Kenya. The case of LIK is especially significant inasmuch as NES has frequently cited the LIK example as a model of how EIA can be implemented and what it can achieve.

LIK set an important precedent for NES and the Ministry of Water Development. However, the LIK case is not typical as there were special circumstances surrounding it that make it an inappropriate basis for generalization. Therefore, while the case clearly demonstrates the potential ability of EIA in industrial planning, it cannot be judged to be a representative instance of how EIA is practiced in Kenya's industrial sector.

The LIK case was not typical for a number of reasons. Firstly, IPS relied heavily on funding from donors who had stringent requirements relating to environmental assessment. IPS knew that they had to take these requirements seriously if they were to obtain financial support. It is reasonable to speculate whether IPS would have been as accommodating in meeting NES's demands for environmental impacts if the pressure to do a proper EIA from USAID were not there.

Secondly, the LIK case involved the construction of a tannery, which while important, is not a leading generator of foreign exchange. Coffee is the leading source of foreign exchange. If the LIK case had concerned coffee processing, there are grounds for speculating that the outcome would have been less acceptable from an environmental perspective.

The above case study is an example of how the EIA process coordinated by NES through the IMCE, has been adopted to control pollution in private sector industrial projects. In the following subsection we will consider the implementation of EIA in public sector projects.

#### **2:3:4 ENVIRONMENTAL IMPACT ASSESSMENT IN WATER RESOURCE DEVELOPMENT: A STUDY OF THE TANA AND ATHI RIVERS DEVELOPMENT AUTHORITY (TARDA)**

In contrast to industry projects which are generally in the private sector, major Kenyan water resource development projects are public sector investments. This section considers the largest of the public entities concerned with water resource planning in Kenya, namely, TARDA.



This section will begin with a background on the development of TARDA. Two case study projects will then be presented. The case studies emphasize EIA implementation and the ways in which environmental considerations influenced planning and decision-making. Finally, the effectiveness of the EIA's undertaken will be evaluated.

The Tana River Development Authority (TRDA) was established in June 1974 by an Act of Parliament.<sup>191</sup> Its mandate was to promote the development of the Tana Basin Resources, including the development of hydro-electric power on the Tana River.

The legislation gave the Authority a broad mandate. According to **C.R Head**<sup>192</sup> the Authority was established primarily to be the Kenya Government's advisory body with the functions of planning, coordinating and monitoring projects, and maintaining liaison between the Government, the private sectors and development agencies. In short, TRDA was created as the principal planning agency for the Tana River Basin with a primary mandate to coordinate the integrated development of the various resources of the basin.

In 1981 TRDA's mandate was broadened to include the Athi River basin and its name changed to Tana and Athi Rivers Development Authority (TARDA).<sup>193</sup> TARDA's 1982 - 1992 forward planning document indicates grandiose plans for harnessing the remaining hydro-electric power potential on the Tana and Athi Rivers.<sup>194</sup>

The next section examines the planning processes followed in two TARDA case studies, and in each case the focus is on EIA implementation.

## **1. CASE STUDY A: THE MASINGA DAM 195**

TARDA's very first project was the Upper Reservoir, also called the Masinga Dam project located on the upper Tana River. The multi-purpose Masinga Dam was built for three purposes. The dam was to regulate the Tana flows, generate power, and augment storage from wet season flow for irrigation in the lower Tana areas during the dry season.

In March 1974, the Ministry of Water Development Commissioned Eurbanks and Partners Limited (EPL) and Watermeyer, Legge, Piesold and Uhlmann (WLPU) to carry out a feasibility study of irrigation and hydropower development on the Tana River. The EPL and WLPU studies examined development options including power only, and power and irrigation. Because of the areas's high rates of soil erosion, analysis of sedimentation and water quality were also carried out. The investigations carried out on the water determined the waters suitability as a local drinking water supply source.<sup>196</sup>

After completing their feasibility study in December 1974, and WLPU were commissioned to conduct the preliminary and detailed engineering design of the Masinga

Dam Project. This work was completed in August 1975 and it examined alternative dam sites in detail, and found the Masinga Dam site to be the preferred location.

In 1975 an ecological impact study recommended that an EIA be performed prior to construction of the Masinga Dam.<sup>197</sup> TARDA asked the Government to seek funding for the Masinga Dam EIA from UNEP. UNEP agreed to fund the EIS, and TARDA commissioned Ward Ashcroft and Parkman (East Africa) to carry out the study in June 1976. In October 1976, TARDA sent a copy of the impact study report to NES for comments. The EIA had concluded that the impact of the reservoir on the downstream areas was difficult to predict and emphasized the need for additional studies. However, the consultants in their letter to TARDA stated that "there were no compelling reasons from the point of view of damage to the immediate environment militating against construction of the proposed dam and the creation thereby of a large Upper Tana Reservoir".<sup>198</sup>

The report also stated that about 100 families would have to be resettled and there would be adverse effects relating to the impact of erosion in the Upper catchment on the reservoir. Construction of the Masinga Dam began in 1978 and was completed in 1981.

We will now analyze EIA implementation of the Masinga Dam project using the five previously noted dimensions of EIA effectiveness.

The first component to be examined relates to procedural compliance. During the period in which the Masinga Dam study was conducted, each Ministry in Kenya had authority to carry out its own environmental planning.<sup>199</sup> There was also no national policy requiring an EIA to be undertaken. Therefore, when TARDA implemented the Masinga Dam EIS in 1976, there were no procedural requirements for an EIA. TARDA went even further and submitted a copy of the EIS report to NES for comments.

The impetus for conducting the EIS was provided by two developments. Firstly, a study on ecological impact on the Tana River recommended that an EIS be conducted. Secondly, TARDA's decision to conduct an EIS was influenced by the establishment of UNEP in Nairobi in the late 1973. UNEP's presence might have contributed to the increased environmental sensitivity in that period.<sup>200</sup>

Therefore, despite the absence of well defined procedural requirements for EIA by the Government, TARDA implemented the EIA. It did so on its own accord.

The second component of EIA's effectiveness relates to the adequacy of the EIA document. The consultants who carried out the study had only two months within which to do so. The report described the conditions of the resources in the area, the expected impacts or effects upon these resources, and also proposed several environmental monitoring programmes.

Although the Masinga EIS report concluded that there was no reason to delay project construction, it stressed that additional studies were needed because the impact of the reservoir on the downstream flood plains was difficult to predict. TARDA did not follow this recommendation.

Furthermore, the pre-construction EIS also predicted that soil erosion was a principal concern that would need immediate consideration, and it recommended that additional investigations be carried out in that regard. TARDA began contemplating a soil and water conservation study ten years after the recommendation was made.

In the case of the Masinga EIA, adequacy is quite difficult to judge since at the time, there were no requirements for an EIA. Although the EIA document complied with the Terms of Reference, the study's duration (only two months) limited the scope of assessment, and the information provided was incomplete.<sup>201</sup> On this account the EIA document can only be judged to have been partially adequate.

The consultants used four main methods to generate information and assess the impacts. These were: literature review, aerial survey, field research and site investigations. Even though the methods used to generate data for the EIS were acceptable procedures, given the short duration of the study, reasonable grounds exist to question the accuracy of the forecasts.

Although a post project audit would provide a much stronger basis for judging the accuracy of the forecasts, no such audit has been carried out. Furthermore, even though NES was given a copy of the EIS, it offered no comments to TARDA. There was, therefore, no external review to provide a basis for judging the quality of the EIS.

An important question that remains is whether and to what extent the information generated was used to influence project decision-making. The fact that the EIS report was prepared only one month before the final detailed design of the Masinga Dam was completed indicates that the EIS was not used to formulate project alternatives, nor was it used to select the proposed project plan.

We have also seen that although the EIS proposed additional studies, these recommendations were not carried out. Therefore, although the EIS generated much information, its influence on decision-making was minimal.

With regard to the weight given to environmental factors, it can be argued that because the EIS was conducted in the absence of an explicit national EIA requirement, environmental factors were judged important in the Masinga Dam project. This is because they were considered despite any existing legally binding obligation for such environmental factors to be taken into account.

It should ,however, be noted that environmental factors were judged to be of limited importance in comparison to technical and economic factors. This is clearly illustrated by TARDA's failure to carry out any of the studies recommended by the consultants.

To summarize, in the absence of national procedural requirements TARDA nonetheless implemented an EIA and submitted a copy of the report to NES. However, since the study was carried out one month before construction, its influence on the project's decision-making was minimal. On the whole, the Masinga Dam implementation was only partially effective as the study's duration ( only two months) limited the scope of the assessment and the information provided was not used impartially. <sup>202</sup>

(ii) **CASE STUDY B: THE PROPOSED MUNYU DAM**

During the late 1970s, TARDA began examining the potential for developing the Athi basin's land and water resources to meet the future water demand for domestic and industrial supply, as well as for irrigation and power generation. The proposed Munyu Dam was to be the first major hydraulic structure on the Athi River. <sup>203</sup>

TARDA commissioned Agrar und Hydrotechnik Gmbh (AUH) and WLPU in April 1980 to conduct the pre-investment study of the Athi river basin. The preliminary report prepared by the consultants identified Munyu and Ndarungu as alternative locations for

the major storage dam. The report further stated that, although the Munyu site had a greater storage capacity, there was a potentially serious water quality problem associated with the Munyu site. The consultants considered the Ndarungu site as a clean water alternative to the Munyu site.

Despite Ndarugu's advantage in terms of water quality, TARDA found the Munyu option more attractive because of its larger capacity. In the final report, consultants recommended that if the Munyu option were to be pursued, studies to examine the environmental impacts of the project should be carried out before a final decision to develop the Munyu Dam was made.<sup>204</sup> Despite this recommendation, TARDA remained keen on pursuing the Munyu option.

Once the pre-investment study was completed TARDA<sup>205</sup> pursued the Munyu option by following up on the consultants recommendation to examine environmental impacts. It is interesting to note that, TARDA decided to carry out the EIS before the feasibility study, arguing that the EIS would be useful to the projects and feasibility study. On January 19, 1992 the Daily Nation carried an advertisement that tenders were invited for the Munyu Dam EIS. Nineteen consulting engineering companies applied and Mwassco Associated Limited qualified and was commissioned to conduct the study. The Munyu Dam EIS began in August 1982, and the study's final report was submitted in April 1984.<sup>206</sup>



The EIA for the proposed Munyu Dam was the second EIS that TARDA had undertaken. In contrast to the Masinga EIS which was conducted just before the construction of the dam, the Munyu study was conducted early in the project cycle.

In contrast to the case of the Masinga Dam, there was explicit EIA requirement during the period in which the proposed Munyu Dam was planned.<sup>207</sup> However there is no evidence to suggest that TARDA performed the EIS in response to these requirements. Moreover, NES only became aware of the Munyu Dam EIS after the consultants performing the EIS contacted NES for information.

TARDA did not therefore conduct the EIS because of the procedural requirements of either the government or a donor agency. TARDA performed the EIS at its own discretion and using its own funds.<sup>208</sup>

It is difficult to assess the adequacy of the EIA document as TARDA did not submit a copy to NES for review. This meant that an opportunity for controlling the quality of the EIA document was lost.

Although the EIS report addressed most of the issues raised in the study's terms of reference, the assessment of the future water quality (the principal concern in the Munyu

case) was largely imperfect. Consequently, the EIS report did not constitute an adequate document from which decisions about selecting project alternatives could be made.<sup>209</sup>

The methods used to assess the impacts were generated from a number of sources; these included a literature review, an industrial survey, water quality sampling, and mathematical modelling exercises. These methods are deemed to be valuable tools.

However, the water quality analysis in the EIS was based on a model that was based on a number of inappropriate assumptions. For example, the analysis showed that the Munyu reservoir water would be suitable for irrigation, domestic and industrial use if strict pollution regulations were enforced. It would be unrealistic to assume that quality levels for effluent discharge presented in the EIS would be achieved unless the Ministry of Water Development presented major changes in its water pollution enforcement procedures.<sup>210</sup>

The Munyu Dam EIS has a strong potential for influencing project decision-making, since it was implemented before the project's feasibility study. However this potential can only be realized if the EIS report is considered seriously.

It should however be kept in mind that TARDA has from the beginning, favoured the Munyu Dam alternative. TARDA could therefore use the EIS report only as a basis for justifying the selection of the Munyu Dam alternative.

Environmental considerations played an important role in the early planning of the proposed Munyu Dam project. Water quality factors have thus far been given attention.

To summarize, even though TARDA implemented the Munyu Dam EIA, it did not comply with NES's procedural requirements for EIA. The EIA document is judged to be inadequate because of the questionable assumptions used in forecasting future water quality, which was an issue of primary importance in the siting of the proposed Munyu Dam. However, the overall effectiveness of EIA activities cannot be judged since the project is still in its planning stages, and we were unable to establish exactly when construction is to begin.

### **(iii) CONCLUSIONS**

We have seen from the LIK case study, that in private sector industry projects, although NES did not have any legislative authority to sanction EIS's, NES nonetheless made very effective use of the legislated powers of other members of the IMCE.

Although NES was able to muster the support of other government agencies, in the context of private sector projects, it was not able to do so when a public agency was involved. Even though EIA was implemented in the two TARDA cases, TARDA did not submit an EIA report for the Munyu Dam to NES for review. NES is unable to either convince or compel TARDA to comply.

TARDA has also manifested secrecy in its interactions with NES.<sup>211</sup> NES only found out about the Munyu Dam EIA when the study consultants approached NES for information. By withholding information from NES, TARDA has been able to control the scope of the EIA. For example, in the Munyu Dam situation, TARDA was able to restrict the scope of the EIA to only the Munyu site, a location it had favoured from the outset.

By being secretive about the EIA activities and thereby avoiding NES, TARDA is able to control which EIA recommendations to follow and which to ignore. An example is provided by the Masinga Dam EIA where TARDA reacts (ten years later) to recommendations made in the EIS.

## 2:4 THE ROAD AHEAD: A GLANCE AT THE NATIONAL ENVIRONMENT ACTION PLAN (NEAP) PROCESS IN KENYA

### 2:4:1 INTRODUCTION

Many developing countries are currently engaged in the NEAP process in their respective countries, and this includes Kenya.<sup>212</sup> These processes are being financed by donor agencies, and prominent amongst these donors is the World Bank. These countries have placed the passage of EIA legislation high on their policy agenda.

In Kenya, the NEAP process has already undergone one stage out of the scheduled three phases. The process is currently in the second stage. The outcome of phase one was a comprehensive report entitled The Kenya National Environment Action Plan (NEAP) Report.<sup>213</sup> This section is a brief overview of the NEAP process currently underway.

### 2:4:2 THE NATIONAL ENVIRONMENT ACTION PLAN (NEAP) REPORT

The NEAP report considers the necessity and scope for the NEAP. It recognizes that there have been many initiatives dealing with environment and development issues, but that many of these initiatives have been started without much consultation or coordination. The NEAP's aim is to provide a broad framework for the co-ordination of

environmental activities by all actors, that is, the government and the private sector, to guide the course of development activities.<sup>214</sup>

The NEAP process is participatory in nature, and the preparation of the Plan was carried out by nine task forces. The membership of these task forces was broad-based, including both public and private institutions, NGOs and local communities. To steer and guide the NEAP process, the following institutional structure was adopted: the Ministerial Level Policy Steering Committee, the NEAP Co-ordinating Committee, the Secretariat headed by the Co-ordinator and the task forces. The task forces were constituted along environmental issues.<sup>215</sup>

The report is comprehensive in nature. The report is in eleven chapters. Chapters 1-8 are concerned with the various sectoral environmental areas. These include biodiversity, water resources, agriculture and food security, desertification and drought, waste pollution and human settlements and urbanisations. Chapters 9-10 is concerned with public participation and environment education, and environmental information systems respectively. However, we focus our attention only on chapter eleven and Annex 1 and Annex 2 of that report, as these are the ones that are relevant to this study. Annex 1 deals the proposed institutional framework whereas Annex 2 is concerned with EIA.

Chapter eleven is entitled "Legal instruments, Land use, EIA and Institutional Framework". The report recognizes the fact that the 77 statutes relating to the management and conservation of the environment have not been effective for various reasons, and recommends a review of all these laws with a view to strengthening them.<sup>216</sup>

With regard to EIA, the report states that EIA has not been effectively integrated into the environmental planning and management levels. It proceeds to propose that development projects and programmes in the private and public sector be subjected to EIA.<sup>217</sup>

The report goes on to propose a procedure to be followed in implementing EIA. The projects are divided into national level and district level projects. At the national level, proponents of investment projects and programmes are to submit their proposals through the Investment Promotion Centre (IPC). The institution charged with overseeing the EIA process will then review the investment in accordance with the laid down procedures.<sup>218</sup>

There are four options open to the institution charged with overseeing the EIA process. A decision can be taken, firstly, to exempt the proposal from complete EIA. Secondly, the institution can decide to accept the proposal in totality. Thirdly, where the institution is not satisfied with the proposal it can either advise for revision or, fourthly, reject the proposal altogether. All proposals allowed to proceed are to be subject to monitoring. The report goes further to state that expansions to existing industries, and major

agricultural projects should also be subjected to EIA before they are approved. Existing and new industries are to be subjected to regular environmental accounting and auditing.<sup>219</sup>

District level projects are also to be subjected to a similar process by district committees. Detailed procedures on EIA are given in Annex 2.<sup>220</sup> Essentially the procedure laid down here is similar to that set out in chapter one of this thesis, and there is no need to repeat it here. Suffice it to say that if the recommendations made in the report are taken seriously, then a more effective system of environmental management and protection will be in force in Kenya.

Without appearing to be pessimistic about the NEAP process, we cannot pretend that there is anything new in these recommendations. They have been made over and over again in various National Development Plans and Sessional Papers already referred to in this chapter. On the optimistic side, we hope that this time there will be the political will that is necessary to implement the report in all its aspects.

A second element of the report worthy of note is the part dealing with the proposed institutional framework. The report recognizes that currently there are several different institutions working in isolation, and in consequence, creating conflicting policies and programmes. It points out that whilst NES is supposed to play the coordination role, it



lacks a legal basis to enforce its decisions, and that furthermore NES is merely a department within a line ministry. The IMCE's mandate and authority are also stated to be unclear.<sup>221</sup>

The report makes recommendation for a single institution with legal authority to coordinate the management of environmental resources. The new organization is also to be charged with the implementation of EIA. The report encourages the participation of the public in the environmental management process, and the establishment of an Environmental Tribunal as a forum for dispute settlement.<sup>222</sup>

Once again, there is nothing new in these recommendations as essentially, these elements are contained in the draft Bill, NEEMA. Hopefully, this time there will be the political will that is necessary to implement these recommendations.

What is of greater concern to us, is the **nature and placement** of the proposed institution to coordinate environmental protection and management, and the EIA process. In our hypothesis, we stated that even where there is legislation, without an appropriate and effective institutional framework, the EIA process is bound to be ineffective. It is therefore critical, in our opinion, to ensure that the institutional framework is not only in existence, but fully operational.

Let us have a look at the proposals given by the NEAP. Firstly, NEAP recommends that the institution could be established through an Act of Parliament as a constitutional office, in order to enhance efficient coordination. Alternatively it could be placed directly under the Office of the President in the Cabinet Office. A third alternative would be to place it within the Ministry of Environment and Natural Resources.<sup>223</sup>

The proposed institution could be an entirely new organization, or could arise from a merger of existing ones such as NES and the Permanent Presidential Commission on Soil Conservation and Afforestation (PPCSCA).

Charts I, II, III and IV of Annex I ( Annexed to this thesis as Annexes 6,7,8,and 9 respectively ) illustrate the various proposals made by the NEAP.<sup>224</sup> These charts represent model organogrammes for a possible structure for a new environmental management set-up. Without going into detail a few comments can be made on these proposals.

Chart Number I (**Annex 6**) on the face of it is a good option. This is because both the Constitutional Office and the Office of the President can be deemed to have the necessary power or clout that would enhance the status of the new environmental agency.

Chart Number II (**Annex 7**) proposes that the environmental agency be placed in the MENR. This option is not in our opinion a good one. Currently, NES is a department with the MENR. We have already seen the difficulties that NES has faced when trying to get other ministries to comply with NES's decisions. An agency placed within a line ministry cannot be taken seriously by other line ministries, as they deem themselves to be of equal standing.

Charts numbers III (**Annex 8**) and IV (**Annex 9**) are simply variations to charts numbers I and II. What should be noted here is that with the exception of chart number IV, participation of the public is put at the lowest level of the hierarchy. This is unacceptable as whatever process is adopted, public participation should be brought in at the level of decision making. Therefore, for example, in charts I and II, there ought to be arrows coming from NGOs and local communities leading **directly** to the proposed agency. There should be provision for direct interaction. This idea is well illustrated by chart IV which brings in all the stakeholders much higher up in the process.

To sum up, the NEAP process is a positive move towards the enhancement of sustainable development. The minute details are currently being worked out. We anticipate that, with the requisite political will, the NEAP process may eventually lead to the enactment of detailed environmental legislation that will incorporate elements of EIA. However, a word of caution with regard to the proposed agency must be made. Placement of the

institutional framework in the wrong office or ministry would compromise the effectiveness of that agency. Therefore, serious consideration ought to be given to this matter.

## **CHAPTER 3**

### **THE EXPERIENCE OF OTHER COUNTRIES: A COMPARATIVE STUDY OF EIA.**

#### **3:0 INTRODUCTION**

This chapter deals with the comparative aspect of this study. Towards this end the chapter is concerned with two of the objectives of the study. These are: to compare and contrast the Kenyan experience in EIA implementation, with that of other countries, and to identify how and to what extent the experiences of these other countries can be applied within the Kenyan context, in order to ameliorate the existing position. These objectives are derived from the last hypothesis of this study, namely: that although to some degree, public policies cannot be exported from one country to another without taking into account different political, economic and administrative frameworks, there are ways in which problems, policies and approaches to implementation in differing places are conceptually similar. A comparative mode of inquiry will help in identifying the problems and solutions to the issues raised in this thesis.

Unlike some other areas of comparative legal analysis, which may be primarily of academic value, comparative studies of environmental approaches often have practical application, notwithstanding that each country bases its legislation on its own political, cultural, economic and social experiences.<sup>1</sup> Comparative inquiry can lead to a broader generalization and help one to understand one's own system. Similar problems frequently have similar solutions.<sup>2</sup>

In this chapter we will look at the different experiences with EIA in different countries. Some of the issues to be considered will include the following: Whether there exist formal or informal systems, and the content of the legislation where such exist, secondly, whether there are established institutions to implement the EIA system, where in the planning process the EIA is introduced and to what extent the public participates in the EIA process.

## **2.1 SUMMARY OF ENVIRONMENTAL IMPACT ASSESSMENT SYSTEMS**

EIA has been adopted in most industrialized countries which have established formal procedures, such as the U.S.A., Canada, France, the Netherlands and Japan. These EIA systems have been classified as "Formal-Explicit". Formal explicit approaches are defined as those where<sup>3</sup>:

- (i) E.I.A. requirements are specifically codified in legislation (general or sectoral) or legally binding regulations;
- (ii) E.I.A. statements are prepared;
- (iii) authorities are accountable for taking E.I.A. into consideration in decision-making, through administrative or judicial review.

Other countries, particularly those with well established land-use planning procedures, have responded to the need for E.I.A. in a more flexible manner, by adapting existing legislation and planning procedures to give greater attention to E.I.A. These include the United Kingdom, the Republic of Germany, Norway, Poland, the Czech Republic and the Slovak Republic. This type of E.I.A. system has been classified as "Informal-explicit". Informal-explicit approaches are those where:<sup>4</sup>

- (i) EIA is modified or adapted to the needs of particular situations;
- (ii) E.I.A. is not necessarily prepared;
- (iii) authorities are not necessarily accountable for not taking EIA into consideration.

Some sort of EIA is also required by many governments in developing countries, most of them belonging to the group of newly industrializing countries. These include Argentina, Bangladesh, India, Pakistan, Nigeria, Kenya, Ghana, Zimbabwe. Some countries have no procedures for EIA. These include Nepal, Fiji and Afghanistan.

### **3.2. APPROACHES TO E.I.A.**

#### **3.2.1. E.I.A. IN THE U.S.A.**

The United States of America is a good starting point for any discussion on legislated E.I.A., as it is the home of E.I.A. The National Environment Policy Act (NEPA) of 1969 took effect in January 1970. The Act was a political compromise between development and environmental interests, but was passed overwhelmingly by the congress.<sup>5</sup>

NEPA essentially did three things. Firstly, it articulated a national policy with respect to the natural environment. Secondly, NEPA embodied what was categorised as "action - forcing" devices, primarily the impact statement requirement, designed to ensure that the national environmental policy was implemented, and, thirdly, NEPA established the President's Council on Environmental Quality (CEQ)<sup>6</sup>



A more detailed analysis of NEPA is necessary. Section 101 (b) of NEPA imposes an explicit duty on federal officials and the government "to use all practicable means consistent with other essential consideration of national policy... to avoid environmental degradation..." Thus NEPA first of all makes environmental protection a part of the mandate of every federal agency and department.

Section 102 of NEPA contains the so -called action -forcing provisions. These are so called because, under this section, the compulsion is most plainly stated. In this section the congress authorizes and directs that, to the fullest extent possible, the policies, regulations and public laws shall be interpreted and administered in accordance with the policies set forth in the Act.

Senator Jackson, NEPA's principal sponsor, stated that no agency would now be able to maintain that it had no mandate or no requirement to consider the environmental consequences of its actions. He thus characterized the requirement of section 102 as "action - forcing", and stated that "Otherwise these lofty declarations (section 101) are nothing more than that".<sup>7</sup>

The key provisions of the Act are contained in section 102 (2) (c), which requires all federal agencies to "include in every recommendation or report on proposals for

legislation and other major federal actions significantly affecting the quality of human environment, detailed statement by the responsible official on:

- (i) the environmental impact of the proposed action;
- (ii) any adverse environmental effects which cannot be avoided, should the proposal be implemented;
- (iii) alternatives to the proposed action;
- (iv) the relationship between local short-term uses of man's environment, and the maintenance and enhancement of long term productivity; and
- (v) any irreversible commitments of resources which would be involved in the proposed action should it be implemented."

These are the steps typically involved in the preparation of an environmental Impact Statement. Sec. 102 (2) (C) of NEPA requires a consideration, not only of the environmental impact of proposed actions, but also of other planning and policy factors. It has been said that this section does not expressly direct agencies to make environmentally-sound or favourable decisions; rather it appears to be premised on the

implicit hypothesis that the mere preparation of an impact statement will ultimately promote environmental quality. This would be by firstly, forcing agencies to take environmental factors into account in the policy formulation and decision-making processes and, secondly, by focusing agency and public attention on the pros and cons of the project involved.<sup>8</sup>

Several novel developments in the NEPA law should be noted. Environmental questions are now given legal force, bringing to an end the contentious issues at common law regarding the legitimacy of these questions.<sup>9</sup> Secondly, action-forcing provisions are introduced to effectuate policy, and thirdly, the planning emphasis is crystallized by the imposition of a duty requiring the preparation of impact statement.<sup>10</sup>

At the institutional level, the Council of Environmental Quality (CEQ) is managed by full-time staff.

The duties of the council are listed in section 204 of NEPA and these include: gathering information on the conditions and trends in environmental quality, evaluating federal programmes in the light of goals established in the Act, and developing and promoting national policies to improve environmental quality.

### **3:2:2 E. I. A. IN CANADA**

While US planners, administrators and scientists struggled with initial problems of applying the NEPA, Canadians also tested the EIA waters for the first time. The Environmental Assessment and Review Process (EARP), the first systematic response to EIA in Canada, was introduced by federal directives dated June 8, 1973 and December 20, 1973. The EIA was therefore established as an administrative requirement.<sup>11</sup> The federal decision required federal agencies and departments to "submit the assessments made for all major projects which will have significant effect on the environment to the Federal Environmental Review Office (FEARO) for review"<sup>12</sup>

In 1979, with the passing of the Government Organisation Act of 1979, the administrative process was statutorily mandated, authorising the Minister of Environment to "ensure that the new federal projects and activities are assessed early in the planning process for potential adverse effects on the quality of the natural environment,"<sup>13</sup> before irrevocable decision-making was completed.

Whereas in the USA every major federal activity is required to be preceded by an EIA, in Canada this is subject to ministerial fiat and basically operates through a self-assessment approach on the part of the federal department or agency concerned.<sup>14</sup> Since

the decisions lie absolutely within the discretion of the minister they are not subject to judicial review.

EARP has been criticised for various reasons. In this section we will only deal with criticisms of the non-legal nature of the process. This is the most fundamental complaint addressed. One writer has commented:

"The notion that a procedure designed to "force" certain parties to do certain things should ultimately depend upon the initiative and cooperation of those same parties is illogical. It is apparently open to initiators to choose not be bound to EARP... (the initiator) may then according to this scenario proceed to construct an ecological calamity."<sup>15</sup>

The non-legal approach to EARP has been attributed to the perceived sensitive nature of the task. Initially EARP officials anticipated reluctance and suspicion by government departments which had already established their own practices for project development.

To lessen the scope for confrontation, EARP was introduced as policy, rather than law, the contention being that in this way, EARP would develop effectively as an EIA tool.<sup>16</sup>

However, in spite of these admirable objectives, the reluctant initiator could not be forced to comply with the process and thus where a department decided to ignore the necessity of an assessment, there was no opportunity for review of the decision-judicially or otherwise.<sup>17</sup>

In June, 1984 the Minister of Environment announced changes in EARP in an attempt to correct several of its shortcomings and to make it "stronger and more imprehensive."<sup>18</sup> The cabinet directives which established and amended EARP were now superseded by an order-in-council.<sup>19</sup> The resulting guideline order specifies the procedural requirements of EARP. It is noteworthy that this guideline order does not have the force of law nor does it anticipate the enshrining of the EARP requirements in either legislation or regulation.<sup>20</sup>

### **3:2:3 E. I. A IN AUSTRALIA AND NEW ZEALAND**

As in many other countries the Australian EIA legislation owed much to the USA's NEPA. However, the Australian version differs from the US version in many important respects, reflecting its different social and institutional environment. The Commonwealth Environment Assessment (Impact of Proposals) Act was introduced in parliament in 1974. The legislation was not fully operational until the Administrative procedures under

the Act were approved in 1975. These contained the detailed procedural steps for implementation.<sup>21</sup>

Despite the potential breadth of their application, the substantive requirements of the Act and procedures are limited and lacking in force. For example, the stated objective of the Act is "to ensure to the greatest extent that is practicable, that matters affecting the environment to a significant extent are fully examined and taken into account."<sup>22</sup> However, this objective is limited in nature and there is no requirement that projects should be environmentally sound; all that is required is that the environmental consequences of proposed actions are fully considered.<sup>23</sup>

A notable limitation on the effectiveness of the Act and its procedures is that the most important requirements which they contain are subject to ministerial or administrative discretion. The minister administering the Act may determine, for example, if an EIA is required;<sup>24</sup> if a public inquiry should be conducted<sup>25</sup>; and if a proposed action should be exempted from the requirements of the procedures.<sup>26</sup> As with the Canadian approach, the discretionary framework of the Act is said to be intended to avoid costly delays due to litigation similar to those that occurred in the USA after the introduction of NEPA.<sup>27</sup>

John Formby does not agree with the above explanation. He opines that the greater limitation on legal standing in Australia would in any case have precluded this. In his

view, the major reason for the discretionary wording was to leave the government with sufficient flexibility for implementation of decisions.<sup>28</sup>

The limited implementation of the Act has been explained in many ways. Firstly, it has been seen as a product of Australia historical or economic context. Australia's past and present reliance on natural resource development carries with it a legacy of utilitarian attitudes toward the environment, and high values placed on growth and development<sup>29</sup>. This historical or economic context reflects the condition found in many developing countries, including Kenya, as already seen in chapter two.

These values, although increasingly subject to challenge, still condition much political decision-making in Australia. Eagerness by states to obtain natural resource development is said to have encouraged a lowering of environmental standards, and a dilution of EIA requirements. Government agencies are still largely organized along development lines, and have well established linkages with the business sector.<sup>30</sup> Secondly, there has been difficulties in relating the EIA requirement to statutory land use planning processes.<sup>31</sup>

In New Zealand the development of formal procedures for EIA were made under the environment commission in 1973. The Environmental Protection and Enhancement Procedures (EPEP) were publicly released in early 1974. They were approved and issued under a cabinet directive. The commission for environment was given responsibility for



administering the EIA introduced in the procedure. However, like the Canadian EIA, the procedure lacked a legislative basis, for its authority was drawn solely from the cabinet directive. A major change was introduced in 1979 through the passing of the National Development Act (NDA) of 1979. Under this Act EIA became a legislative requirement for certain major projects.<sup>32</sup>

### **3:2:4 APPROACHES TO EIA IN THE EUROPEAN UNION**

In June 1980 the European Commission published its "Proposal for a Council Directive concerning the environmental effects of certain public and private projects."<sup>33</sup> The directive applies to projects identified in lists attached to it as Annex I and Annex II. Annex I deals with those projects which are likely to have significant environmental effects, and are therefore subject to full assessment. Annex II deals with those projects which may or may not have significant effect on the environment, and may be assessed where member states so require.<sup>34</sup>

The European approaches to EIA differ from the North American ones. The reason for this is to be found in the sectoral approach adopted by the European environmental institutions.<sup>35</sup>

Article 1 of the Directive states: "This Directive shall apply to the assessment of the environmental effects of those public and private projects which are likely to have significant effect on the environment.

It is not clear why the assessment is limited to projects and not extended to plans and programmes as well. The argument, which will also be reiterated in a subsequent section, is that a more comprehensive field of application is often at the plan or programme level, where fundamental decisions related to the environment are made. The disadvantages of leaving out plans and programmes is that it may be very difficult to incorporate at the site level, environmental considerations which were not part of the initial plan.<sup>36</sup> Although the directive adopted what might be called a "reduced level" of EIA (for projects), it broadened the category to include both public and private actions and lists to be subjected to an assessment in Annex I and Annex II.

By providing lists of project types the Directive appears to have followed the French EIA legislation rather than the US one which, through the CEQ, and individual agency guidelines, provides a more flexible approach for determining the type of projects to be subjected to assessment.<sup>37</sup> The ambiguity of the US legislation as to the size and the type of federal action requiring an EIA resulted in a flood of litigation and the delay of numerous projects. In order to avoid the perceived weakness of the American EIA

process in that regard, the commission decided to specifically state the type of projects to be assessed.<sup>38</sup>

Provisions for public participation in the proposed EIA procedure are included in Article 8, which states that the competent authority shall make publicly available all relevant documents and information gathered, and shall arrange appropriate consultations with the members of the public concerned. It further states that the public authority shall decide the best means for giving the information. The problem of public participation, therefore, is not so much a question of "whether or not," but rather "how much," and "to what extent".<sup>39</sup>

In no other member state did the Directive on EIA receive so much attention as in the United Kingdom. The House of Commons debated the Directive and concluded that:

"... the Government policy of encouraging environmental assessment within the principles of our present law is the only sensible one to follow at present".<sup>40</sup>

Given the House of Commons' resolution it might be useful to briefly examine the existing planning system in the UK. To begin with, there exist different arrangements for the planning of public and private projects.<sup>41</sup> Control over private development projects is the responsibility of district planning authorities, county planning authorities and the

central government. Public sector proposals are dealt with in different ways depending on the proponent, but are not governed by the planning Acts, and do not require the permission of the planning authorities already mentioned. Instead the planning consents are granted by the appropriate secretary of state.<sup>42</sup> In the British planning system, planning authorities have a great deal of discretion in determining the amount and kind of information needed for granting a planning permission.

This explains why the UK was unwilling to accept the directive wholeheartedly. Firstly, the idea of a mandatory system of impact assessment for certain types of projects runs counter to the UK planning system. For example, the UK government felt that it was inappropriate to include forestry and agriculture (which fall under Annex I of the directive) as compulsorily requiring EIA because "it is a long established principle of town and country planning law that, subject to certain exemptions, agriculture and forestry should be exempt from statutory planning control ... we believe that in so far as it is desirable to assess the environmental implications of such changes this is best done by voluntary arrangements."<sup>43</sup>

Secondly, the UK government was also concerned that the provisions for consultation and participation would extend what was already a prolonged planning process in many cases; and thirdly, that the adoption of a mandatory EIA system would bring about

increased planning costs to the developers.<sup>44</sup> These concerns echo what many developing countries, including Kenya, have voiced.

The European Union Directives on EIA have been implemented by means of a series of regulations. Through these regulations, EIA requirements are applied to various procedures whereby approval is granted for development projects.<sup>45</sup> EIA in the UK is therefore factored into the existing planning system, in the sectoral resource enactments such as the Countryside Act of 1968, and the Countryside and Wildlife Act of 1981.<sup>46</sup> Other projects are implemented by means of Town and Country Planning (Assessment of Environmental Effects) Regulations 1989.<sup>47</sup>

This system in which EIA is built into the planning and pollution legislation, but is not itself a formal legal requirement on a national level, exists in Belgium, Norway and Denmark, and to some extent in Germany. On 30th January 1981, the then German federal parliament passed a resolution regarding the directive, by which it approved, in principle, the content of the directive. However, the parliament voiced the opinion that national regulations which already provided for the equivalent of an EIA need not be changed. It was difficult to introduce EIA in Germany without specifically incorporating it in existing legislation, because there already exists a mandatory system extending over various levels of planning permission which include many elements of EIA.<sup>48</sup>

In The Netherlands, the first steps towards the introduction of EIA took place between 1970 -1978, whereby a series of trial runs related to EIA were undertaken, leading to a government standpoint on EIA being published in 1979.<sup>49</sup> In its scope, content and procedures, the Dutch EIA regulations are more than the EIA directive. The Dutch EIA covers all the projects covered by the directive, but more importantly, the Dutch EIA will be applied to decisions on development at the policy level as well as the project level.<sup>50</sup> In a subsequent section we will discuss in more detail the application of EIA at the decision - making level.

The content of the Dutch EIA also exceeds the Directive. In addition to a description of the project and alternatives to it, the existing environmental condition, and the future condition of the environment are to be described. The Dutch legislation also considers the "null- alternative"<sup>50A</sup>, that is, where neither the proposed activity nor the alternative will proceed. This approach of alternatives makes the Dutch legislation much stronger.<sup>51</sup> Dutch legislation took the form of the Environmental Protection (General Provisions) Act. In this Act no decisions can be taken on EIA unless both the content and procedural requirements are met. Dutch EIA is an example of an effective EIA.<sup>52</sup>

France also has legislative provisions for EIA which are set out in the Laws for the Protection of Nature.<sup>53</sup> A decree established the minimum content of an EIA and determines the circumstances in which an EIA is required. Article 3 of the law

introduces appendices containing lists of three sorts. The lists cover activities which are under all circumstances to be submitted to EIA, those not subject to EIA, and those only requiring a summary EIA report.<sup>54</sup>

### **3.2.5. APPROACHES TO EIA IN THE NEWLY INDUSTRIALIZED COUNTRIES AND THE DEVELOPING COUNTRIES.**

The practice of EIA in many developing countries has not been as effective as in the developed countries. Many reasons have been advanced as explanations for this trend.

These include:-

- (i) the political dimension: in any country or region the effectiveness of EIA as an environmental management tool will always be limited by the political context, that is, by the degree to which the relevant authorities are willing or able to make environmentally sound development a priority.<sup>55</sup> This has not been possible in many developing countries;
- (ii) the conflict between the pursuit of environmental considerations, as such, and the quest for economic development;<sup>56</sup>
- (iii) the financial costs of conducting full fledged EIA are high;<sup>57</sup>

- (iv) data and expertise for identifying and predicting potential impacts are not available at the appropriate level of detail;<sup>58</sup>
- (v) EIA is a technique developed in the North, and therefore contains cultural values that make its transfer to the South difficult;<sup>59</sup>
- (vi) many of the institutional frameworks of the developing countries are not designed for an effective application of environmental assessment. There is often a competition for resources, and a power struggle between the various sectoral agencies.<sup>60</sup>

According to Mary McDonald,<sup>61</sup> none of these problems except the second last, is limited to EIA in the developing countries. In her opinion, almost all of the concerns regarding EIA are universal.

The government of the **Philippines** made an official policy statement on the environment in 1978, which was then incorporated in the Philippines Development plan for 1978 - 1982. This plan stressed the need for harmony between human settlements and ecological systems. The plan also declared that EIA will be employed as one of the essential policy instrument to manage areas with pollution problems. The National Environmental Policy Council (NEPC) was instituted and the legal provisions for EIA were promulgated as part



of the presidential decree on the Philippines Environmental policy. Detailed rules and procedures for the preparation of EIA were established by the NEPC in 1979.<sup>62</sup>

The Filipino policy is patterned closely after the NEPA. The law requires EIA for both public and private agencies, unlike in many other countries. The EIA system is functionally decentralized. Various functions are assigned among six principal participants at the national level with different authorities and responsibilities.<sup>63</sup>

The most critical weakness of the EIA system appears to be in the governmental nature of the NEPC. The NEPC consists of heads of various agencies and is headed by the Minister of Human Settlements. The status of the NEPC's operational staff in the government hierarchy can weaken its legal authority. Many ministries whose role is that of responsible agency may not take the EIA system as a firmly established requirement, and will ignore the NEPC legal authority.<sup>64</sup> NEPC's own evaluation suggests that the institutional problems are among the most important barriers to effective implementation of EIA. Many participants view EIA as mere bureaucratic red tape, rather than a tool for environmental planning, and EIA requirements are not fully internalised in the planning process. Other weakness mentioned by the NEPC include lack of data management systems and lack of manpower.<sup>65</sup>

By the end of 1977, environmental conservation law had been established to set a legal framework for pollution control, and to set out preliminary procedures for assessing EIA in Korea. In December 1979, revisions were made to the law. This change was accompanied by the creation of the office of Environment (OOE).<sup>66</sup>

In Korea, the head of the agency undertaking the project is responsible for the preparation of the EIA. There is no separate licensing procedure established in connection with the EIA process. The public agencies have the final approval of plans for proposed projects. These agencies, in the Korean EIA, assume the fourfold role of action proponent, responsible agency, preparer and licensing agency.<sup>67</sup> This is a unique situation which gives room for a lot of discretion.

The Korean law has a fundamental weakness. The environmental conservation law is only concerned with technical aspects of EIA, and not with the procedural aspects. Therefore, under the current legal framework the procedural rule-setting is outside the domain of the OOE's legal authority.<sup>68</sup> Without doubt the OOE cannot function effectively without procedures or guidelines on how to proceed.

In Brazil, the special Environmental Agency (SEMA) was established to oversee environmental protection in 1974. In 1981 the national environmental policy law mandating EIA was enacted. However the law has not been followed by the

establishment of procedural rules for purposes of implementation. As a result assignment of functions amongst the various participants and their formal interactions has not been clarified by statutory documents.<sup>69</sup>

The function of rule setting rests with the National Environmental Council (CONAMA), created by the national environmental protection law. Its representatives are from both the private and the public sector. The council has legal authority to set criteria for licensing pollution-related activities, and to determine whether studies of alternatives and of possible consequences of public and private projects are necessary.<sup>70</sup>

At the centre of the Brazilian EIA system is SEMA which is part of the ministry of the Interior. It supervises the licensing procedure processes to be conducted by the state governments, and makes recommendations to CONAMA, concerning licensing rules and standards. As in Korea, the law does not specify the parties involved in the review of EIA, their authorities, and their interactions.<sup>71</sup> SEMA cannot function adequately for three main reasons. Firstly, SEMA is not empowered to review the EIA document, and has limited legal authority. Secondly, there are limitations regarding both financial and human resources; and thirdly, SEMA's sub-ministerial status impairs its effectiveness.<sup>72</sup>

Institutionalization of the EIA process in **Thailand** began with the proclamation of the Enhancement and Conservation of National Environment Quality Act in 1975. It

established the National Environment Board (NEB) first under the office of the Prime minister, and later under the Minister of Science, Technology and Energy. The office of the NEB served as the secretariat. In 1991, a new government came into power and introduced new legislation, the Enhancement and conservation of the National Environmental Quality Act (NEQA). Under the NEQA, section 17 gave the minister of science, technology and energy the power to list categories of projects requiring an EIA.<sup>73</sup>

However the minister may grant exemption from EIA to projects and activities, if an EIA has been undertaken on previous projects or activities of a similar type, or those located at the same site. Under section 46 the exemption is granted "provided that the proponents of such projects or activity shall undertake to comply with various measures prescribed in the Environmental Impact Assessment report which is applicable as the standard for assessment". The implementing agency in Thailand is known as the office of Environmental policy and planning (OEPP), and its opinion can be sought before a project is undertaken. The OEPP can only comment on the EIA report; the decisions to approve or disapprove the report lie with an ad hoc experts' committee.<sup>74</sup>

In **Africa** we were unable to find detailed material relating to EIA as in the case of the developed countries. Unavailability of data was therefore a major hindrance to our study. We were able to establish that Algeria, Congo, Egypt, The Gambia, Ghana, South

Africa, Uganda and Zambia have some form of environmental legislation, but only a few of these make specific reference to EIA. Mauritius, Rwanda, Mozambique, Sierra Leone and Kenya have draft environmental legislation that has sections dealing with EIA.<sup>75</sup> Apart from this general information details were not readily available.

In **Nigeria**, the formal institutionalization of the EIA process has yet to take place, despite the enactment of the Federal Environmental Protection Agency (FEPA) decree.<sup>76</sup>

Olokesusi states that in Nigeria EIA has hardly been undertaken. Where it had been undertaken it did not critically examine health and environmental concerns. Nigeria faces a number of problems with regard to EIA implementation. These include: the lack of procedural guidelines laid down by the government as to the form and content of EIA; the lack of expertise; and EIA in Nigeria is used as an end-product to obtain planning permission, rather than a step in the EIA and environmental management process.<sup>77</sup>

The **Ghana** Environment Protection Council (EPC) was set up in 1973 as the sole public agency in charge of environmental affairs.<sup>78</sup> In 1985 the government enacted a new law,<sup>79</sup> which states that regard should be had to the likely effects an enterprise may have on the environment, and measures proposed for the prevention and control of any harmful effects on the environment.<sup>80</sup> The law also makes this requirement one of the conditions for the granting of approval for any project.<sup>81</sup>

Although the law gives the Ghana Investment Committee (GIC) power to ensure that no investment project has any deleterious effect on the environment, it actually gives no legal provision for the EPC to conduct or produce an EIA. It is only on its own initiative that the EPC has charged its EIA committee with responsibility for drawing up proposals for the administration of EIA in the country<sup>82</sup>. We see therefore, that no legal framework exists for EIA in Ghana. The EPC itself has not indicated what procedures are to be used in implementing the EIA process.<sup>83</sup>

In **Zimbabwe** EIA is not institutionalized into the planning process. An extensive policy document has been completed, but there is not yet a formal requirement for the findings of an EIA to be made available at each stage of decision -making, nor are decision -makers required to demonstrate how an EIA affected their final decision.<sup>84</sup> The review process carried out in Zimbabwe follows all the traditional steps in EIA preparation. However, alternatives to the proposed action are rarely considered, and there is no suggestion of a monitoring programme to determine the actual impacts of a proposal once an operation is up and running.<sup>85</sup>

Environmental protection and management in the socialist countries is, in legal terms, considered as a constitutional question.<sup>86</sup> In the former U.S.S.R, Article 18 of the constitution adopted in 1977, provided that in the interest of present and future generations measures should be taken to protect all natural resources and the

environment.<sup>87</sup> Similar provisions are found in the constitutional of Bulgaria,<sup>88</sup> the former German Democratic Republic,<sup>89</sup> and the former Czechoslovakia.<sup>90</sup>

In **China**, the requirement for EIA was first established in the National Environmental Protection Law (NEPL), promulgated in 1979. Later on, rules and regulations were published in support of the requirements of the NEPL. In support of the EIA requirements, the government issued in May 1981 (revised in March 1986) a directory order for the implementation of Environmental Impact Statement, and a review process (EISRP) known as the Environmental Protection Regulations on Development Projects (EPRDP).<sup>91</sup> The 1979 NEPL states that regard should be given to the prevention of pollution and damage to the environment when planning for a project, and that EIA should be prepared. It further states that project design cannot be started until the EIA is revised and approved by the responsible environmental protection agency.<sup>92</sup>

The 1986 revised environmental protection regulations on development projects define more explicitly when EIA is to be prepared, reported and reviewed, the limits of authority over the review, and the responsibilities of the various actors. It also has unique features, namely, the requirements attached to the grant of EIA licences, for those organisations which are authorised to undertake the preparation of the EIA for the proponent.<sup>93</sup>

The Chinese EIA review process is particularly well defined as it sets out clearly the responsibilities of the various groups. These include the responsibilities of the proponent, the regulating department, the Environmental Protection Agency, and the other administrative agencies. This clear demarcation of authority can undoubtedly facilitate co-ordination and the proper working of the EIA process. The Chinese EIA review process has also established the EIA licensing system, to ensure the quality of the EIA undertaken. Firstly, an organisation which undertakes the work of EIA should hold an EIA licence issued by responsible environmental protection agencies. Secondly, the proponent organisation is held responsible for the accuracy of the EIA conclusions it provided; and thirdly, the working plan or outline prepared by the proponent organization should be approved by the responsible environmental protection agency before EIA is started.<sup>94</sup>

The Chinese EIA process is a good example that should be replicable in other countries. Unlike in many developing countries, already mentioned, including Nigeria, Ghana, Kenya and the Philippines, the EIA process in China has to be approved before it takes place. We have seen how EIA in many developing countries, is undertaken only to justify projects that are already underway. In Kenya we saw how EIA is undertaken without the knowledge of the agency concerned (NES), and how NES may only become aware of the project's existence when the EIA documents are presented to NES for "approval". The Chinese example would be useful in two respects: firstly, it clearly defines the roles and



responsibilities of all the agencies concerned. This would help to facilitate institutional co-ordination, and efficiency; and secondly, the licensing procedure would help to facilitate efficiency and create accountability.

**Indonesia** is an example of a country that has no formal requirements for EIA but has informal procedures. The policy regarding the management of natural resources and protection of environmental quality is specified in the General Principles of state policy. The need for EIA -type analysis during the planning of development projects, to avoid and prevent unnecessary environmental degradation, is also stressed in the General Principles.<sup>95</sup> In 1978, a process to ensure that development proceeds in accordance with government policy was established under a directive to the Ministry of State for Development Supervision and the Environment. Essentially it provides that EIA should be carried out for all projects, programmes and activities that are likely to have a significant effect on the environment, and the results of the assessment are to be used in planning, decision-making and implementation.<sup>96</sup>

Programmes were included in the Third Five -Year Plan (1979 -1984) to enable the initiation of compliance with government policy. This included the requirement for EIA for development on a sector -by - sector basis, especially in mining and industrial sector. The decision as to whether a project requires EIA studies is made on a project-by-project basis.<sup>97</sup>

However there is a clear lack of division of authority for the purpose of specifying which projects require EIA, Which agency or body is responsible for its conduct and reporting, and which agency is to review the EIA report for completeness and accuracy. Furthermore, there is no specification of who will monitor the level of implementation of the recommended environmental management measures. In other words, the shortcoming apparent in the EIA processes of many developing countries (already dealt with earlier) applies to Indonesia as well. There is an obvious lack of rules or procedures to guide the implementation of existing EIA processes. The EIA process in Indonesia is similar to the Kenyan EIA which is not currently provided for in legislation, but remains an expression of the government's policy on the environment, contained in successive development plans.

Other countries that perform EIA on a project basis (ad hoc) include Pakistan and Bangladesh.<sup>98</sup>

### **3.2.6 CONCLUSIONS**

Recent literature on EIA has focused mainly on certain developing countries and on the South East Asian and Latin American nations, with scanty attention being accorded to EIA practices in African countries. Few African countries have formal EIA requirements

and this has led several authors, including **Wandersforde Smith et al**<sup>99</sup> to argue that EIA has not diffused as rapidly in Africa as in other parts of world. A study funded by the United Nations Environmental Programme (1980) surveyed the status of 15 national environmental planning efforts in Africa. None of these were based on formal EIA regulations or laws.<sup>100</sup> Sammy's (1982) survey suggest that at least seven African countries including Kenya, Nigeria, Botswana, Cameroon and Liberia have some form of national EIA requirements.<sup>101</sup> The survey did not however detail the nature of these requirements, and therefore apart from what we have been able to find on Ghana, Nigeria, Kenya and Zimbabwe, the extent of EIA activity in Africa remains unclear. We have already seen that most African countries view EIA as something to be merely used to justify projects already undertaken. In Kenya EIA has been used on only a few occasions, as a national requirement to control pollution from industrial projects, and when donors have insisted that an EIA be undertaken.

There are certain recurrent themes that emerge clearly from the approaches presented above. These are:

- a) In many developing countries EIA is primarily used as a remedial instrument or justification for actions already taken, and has rarely led to a consideration of alternatives, or to major modifications of initial plans.

- b) EIA systems have not been fully integrated into the existing planning and decision-making process, as the institutionalization of EIA has not yet taken place.<sup>102</sup>
- c) One of the common impediments to the successful implementation of EIA relates to the status of the review agency. The review agencies in many developing countries are departments within ministries. This means that they are of relatively lower status and therefore have limited authority.
- d) These review agencies suffer from a lack of resources and from technical incapacity. This characteristic is apparent in respect of all the developing countries analyzed.

All these circumstances tend to debilitate their legal and actual authority vis-a- vis that of other participants in EIA implementation. The status of the agencies concerned with EIA implementation has to be elevated. This observation has been made by many of the agencies concerned with EIA implementation. In Nigeria, Olokesusi<sup>103</sup> has suggested that the Federal Environmental Protection Agency (FEPA) should be entrenched in the Nigerian constitution, if it is to achieve efficient implementation. Other suggestions include the granting of an independent ministerial status or placing the agency in a more powerful ministry directly in charge of development and planning.<sup>104</sup>

EIA may be viewed as an instrument for institutional change, and EIA systems are regarded as policy instruments for institutional adaptation and reform in the long run. The successful implementation of EIA requires on going and sustained restructuring of its institutional framework. The effectiveness of EIA will depend on the capacity of existing institutions to deal with environmental information and values, and to overcome sectoral and specialised approaches.

### **3:3 PLAN, POLICY AND PROGRAMME - LEVEL EIA.**

The argument for a more comprehensive field of application of EIA is often at the policy, plan and programme level, where fundamental decisions related to the environment are made. Without the commitment to a consideration of environmental factors in, for example, land use or transportation plans, it then becomes difficult to incorporate them at the level of sitting decisions for an individual highway or industrial plant.<sup>105</sup>

A second drawback to limiting EIA to the project level is that, whereas the individual project might have minor or insignificant environmental effects, the cumulative effect of, for example, a highway system or an industrial complex might be far -reaching. These could only be assessed by more comprehensive, plan-level EIA.<sup>106</sup>

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There is no basis in the principles of EIA for overlooking policies, programmes and plans. It seems to be generally understood that the EIA process is not a separate procedure but that EIA should be part of planning and decision-making processes. A subsequent problem is in the field of application. While there is consensus that EIA should be applied as early as possible in the decision making process, differences occur in the application of this underlying principle.<sup>107</sup> The reason for this is the lack of adequate methodology for assessing policies, programmes and plans.

The preoccupation to-date with project level EIA is **de -facto** rather than **de jure**. For example, from the onset of the US NEPA, EIA was meant to test, inform and reorient federal decision-making.<sup>108</sup> section 102 (2) (c) of NEPA in fact, refers to coverage of "proposals" for legislation and other major federal actions significantly affecting the environment". Unfortunately, this has never been so. One of the basic problem- areas in the implementation of NEPA is that the Act has not been applied early enough in the decision-making process.<sup>109</sup>

Attention has been mainly focused on enforcement of NEPA's requirements at the project level, and there has been a failure to seek agency compliance with NEPA in the early planning stages where the Act potentially could have its greatest effect. It has been said that NEPA can never achieve total success if applied only at the project level.<sup>110</sup>

In other countries too we find this broad language, that suggests that EIA should be applied early in the planning process. The Canadian guidelines for example, call for the application of the process "as early as possible in the decision-making process",<sup>111</sup> before irrevocable decision-making is completed.

In Australia, the Act is to apply to policies as well as projects. In reality this has not happened either in Canada or in Australia. EIA is applied as a project planning and mitigation tool, focusing on questions of how (rather than whether or where) development should take place.<sup>112</sup>

The Dutch EIA law is applied to decisions on development at the policy as well as project level, going even further than the requirement under the European Union Directive.<sup>113</sup> The European Union Directive limits EIA to projects only, and does not extend to plans, policies and programmes.<sup>114</sup> It is not clear why this was the position taken at that stage.

In Norway the EIA regulations adopted requires that the proponents should consider the environmental consequences of a proposal early in the project planning phase.<sup>115</sup>

Plan, policy and programme-level EIA has not been implemented with efficiency anywhere in the world, so far, for reasons already stated. In Africa and other developing

countries, attempts are still being made to introduce legislation on EIA, as a mechanism for environmental protection, and therefore most developing countries have not even considered the question of how early EIA should be integrated into the decision-making process.

The United Nations Economic Commission for Europe (UNECE) has recently established a task force to study the framework, procedures and mechanisms for applying EIA at policy, programme and plan level. Provisional conclusions are that such application is necessary and feasible, and that EIA will be most effective when applied at the earliest stage of policy evolution. This approach is seen as providing an added capacity for anticipating and highlighting potential problems, and assisting long term planning.<sup>116</sup>

A commitment to this approach is part of the recent reforms to the Canadian E.I.A. system. The Environmental Assessment Act (1992) prescribes the process for project assessment, and although policy and programme assessment is not covered, it is required by cabinet directive.<sup>117</sup> This is a major departure from previous practice.



**3:4:1 THRESHOLD REQUIREMENTS**

The American legislation (NEPA) has three threshold requirements which have been the subject of a great deal of judicial interpretation and have adversely limited the scope of the Act.<sup>118</sup> NEPA requires the filing of an EIS in connection with major federal actions significantly affecting the quality of the human environment. Thus an EIA is needed only when a project is "major", constitutes a "federal action", and has "significant environmental impact".

The requirement that the project be federal left out activities in the private non-governmental sector, in particular, the industrial sector which is noted for being the major polluter of water and air resources. This has led to great uncertainties as to the extent to which NEPA applies to private development activities. When the federal role in state or private projects is limited, the argument has been that the action in question is not "sufficiently" federal for NEPA's purposes.<sup>119</sup>

Specifically it has been held that the granting of a permit by the Army Corps of Engineers for the private construction of fishing piers, and a boat marina did not amount to sufficient federal involvement to require an impact statement under NEPA.<sup>120</sup> This

deficiency in NEPA has been criticized as it is a universally recognized responsibility of governments to exercise close supervision of private activities which significantly threaten or affect public health, safety and/or welfare.

The other two threshold requirements, though important for expressing a necessary delimitation, have nevertheless opened avenues for the avoidance of EIA in the USA. The problem of determining what federal actions are covered by NEPA arises from the phrase in sec.102 (2) (c)..." **'Major'** federal actions **significantly** affecting the environment..." There is a division of authority as to whether this language constitutes one or two tests.<sup>121</sup>

The question is, does NEPA apply where the project is not a major one, but significantly affects the environment. One line of cases reasons that "major federal action" refers to the cost of the project, the amount of planning that preceded it, and the time required to complete it, but does not refer to the impact of the project on the environment.<sup>122</sup>

As to whether the action in the question significantly affects the quality of the human environment, one court has stated that"... the agency in charge should normally be required to act in light of at least two relevant factors:

- i) The extent to which the action will cause adverse environmental effects in excess of those created by existing uses in the area affected by it and,
- ii) The absolute quantitative adverse environmental effects of the action itself, including the cumulative harm that results from its contribution to existing adverse conditions or uses in the affected areas".<sup>123</sup>

Sec 102 (2) (c) of NEPA says nothing about the mechanism of impact statement preparation, nor does it suggest how NEPA is to be supervised, implemented or enforced. The Council on Environmental Quality (CEQ) has promulgated a set of guidelines<sup>124</sup> for impact statement, but as far as supervision and enforcement are concerned it has been the courts that have borne the major burden, as we shall see later.

In **Canada** the federal agencies and departments are to submit the assessments made for all major projects which will have significant effect on the environment, to the federal environmental review office (FEARO). The Canadian requirements are thus similar to those in USA. However it should be remembered that whereas in the USA every major federal activity is required to be preceded by an EIA in Canada this is subject to ministerial fiat, and the decision is therefore not subject to judicial review.

There is a distinction between projects undertaken by federal departments and agencies, and projects undertaken by other organisations. In Canada it has been suggested that the significance rather than the source of the project should be the determining factor.<sup>125</sup>

In **Australia**, the scope of EIA has a wider potential application. It specifies that the Act should apply to almost every conceivable type of government activity.<sup>126</sup> Despite this potential breadth of its application, the Act is weakened by the fact that there is no requirement that projects should be environmentally sound; it merely requires that the environmental consequences of proposed actions are fully considered.<sup>127</sup> Like in Canada, the Australian legislation is also subject to ministerial fiat, and the consequent implications.

The system of assessment embodied in the New Zealand Environmental Protection and Environmental Procedures (EPEP) is similar to those in the USA and Canada. The EPEP are applied to all actions in the public sector which will have a significant impact on the environment. But further to this the EPEP also apply to actions of private sector organisations, or local authorities that require government permit or licence, finance or other resources under state control. However, coverage is still not wide enough because private enterprise is not included.<sup>128</sup>

To a limited extent, there has been voluntary application of the EPEP by groups not strictly required to conform to them. A major change came to New Zealand with the passing of the National Development Act (NDA) of 1979. Under this Act, EIA became a legislative requirement for certain major development projects.<sup>129</sup> This means that the projects will require an EIA irrespective of whether it is a public sector or private sector project. We feel that this approach is the correct one to follow.

The **European Union Directive** on EIA states (in Article 1) that it shall apply to the assessment of the environmental effects of both public and private projects that are likely to have a significant effect on the environment. This gives a wider scope of application. However its potential is restricted by the fact that the European Union Directive applies only to projects and not plans, policies and programmes. The Dutch EIA, in its scope, is wider than the European Union Directive. It not only covers the projects covered by the Directive, but more importantly, the Dutch EIA will be applied to decisions on development at the policy level as well as the project level. In the Netherlands, EIA will only be applied to decisions on those types of activities which are likely to have significant impact on the environment.<sup>130</sup>

The **Norwegian** regulations<sup>131</sup> state that the purpose of the regulations is to ensure that possible impacts on the environment are assessed for all major development proposals.<sup>132</sup> This can be read to mean that both public and private developments are subject to

assessment. This approach should be adopted by other countries, as it stresses more on the activity and its effects, rather than the source of the activity. This is the approach used in the Netherlands and in New Zealand.

The **Filipino** law requires EIA for both private and public agencies.<sup>133</sup> This is the position also in Thailand, where government agencies, state enterprises and private persons are to deliver documents relating to proposed projects.<sup>134</sup> Although the scope of the EIA is much wider in both the Philippines and Thailand, we should remember that, as with other developing countries, the effective implementation of legislation is often impeded by the various shortcomings we have already seen.

In **Korea**, the mandate for EIA is limited to large-scale public projects, and as a result the current EIA system can cover only a small portion of actions which have a significant effect on the environment.<sup>135</sup> In **Brazil**, we find that EIA is required for both public and private projects under the jurisdiction of the federal, state and municipal agencies, as well as private corporations. However, the nature of the projects subject to EIA is not clearly outlined by the law.<sup>136</sup>

We have already seen that there are no formal laws requiring EIA in Kenya. The National Environment Secretariat (NES) proposed a mandatory EIA requirement in all public and private projects as part of the environmental management policy in 1979.

However this proposal was not accepted. It is only in industrial projects, that EIAs are sometimes implemented.

### **3:4:2 CRITERIA FOR DETERMINING THE ENVIRONMENTAL SIGNIFICANCE OF PROJECTS**

Screening was introduced to determine the types of projects which should be subjected to EIA because some, due to their very size or nature, have very little adverse effect. Screening can be done through the use of lists, or a set of criteria/guidelines. A list lays down the category of activities that by their nature are, or are not likely to have significant effects on the environment.<sup>137</sup>

The **European Union Directive** applies to projects identified in lists which appear in Annex I and Annex II of the Directive. Annex I contains a list of projects which are likely to have a significant effect on the environment. These are subject to full assessment. Annex II contains a list of those projects which may or may not have a significant effect on the environment. These may be assessed where member states so require.

The "list approach" is used in different countries within the European Union. These include France, Germany, Finland, The Netherlands and the United Kingdom. In

**France**, Article 3 of the decree introduces four appendices containing lists of three sorts.

The list covers activities which are:

- a) under all circumstances submitted to EIA;
- b) not subject to EIA depending on specific thresholds, magnitude or expenses; and
- c) not requiring EIA, but requiring an "environmental impact summary report".<sup>138</sup>

In **The Netherlands**, before the development of the positive list and the negative list, wide consensus was achieved amongst experts, social interest groups and public representatives with roles and responsibilities in the EIA process.<sup>139</sup> EIA will only be applied to decisions on types of activities that are likely to have a significant impact on the environment. These activities are included in the so-called positive list. The advantage of the list is the legal certainty it provides.

**Canadian** law provides for two types of list: a comprehensive study(mandatory) list and an exclusion list. The exclusion list is subject to review every five years.<sup>140</sup> We believe that the provision for review is very important, as the significance of certain activities may change with time, as circumstances and the environment also change.



Other countries may use or set criteria or guidelines for determining whether the effects of a proposed activity are likely to be significant. This is found in the USA, Canada, Australia and Finland. In the USA, through the CEQ and individual agencies, guidelines are provided which give a more flexible approach for determining the type of projects to be subjected to assessment.<sup>141</sup>

Whether a particular country uses the list method or a set of criteria, an attempt has been made to cover major developments which, because of their size, nature and/or location could significantly affect the quality of the environment. The resultant project types which have emerged over time include:

- a) large industrial projects;
- b) large infrastructure projects;
- c) power generation;
- d) special forms of power particularly nuclear power;
- e) extraction of minerals;
- f) production, use and storage of chemicals and hazardous wastes;
- g) forestry management.

## **3:5            PUBLIC PARTICIPATION IN THE EIA PROCESS**

### **3.5.1        INTRODUCTION**

The involvement of an informed public, and the participation of affected groups in project planning are critical to the success of development projects all over the world. The world Bank's Environmental Operational Directive calls for the involvement of affected groups and NGO's in project designs and implementation, and particularly in the preparation of E.I.A. reports.<sup>142</sup>

EIA originally evolved without any consideration of the socio-ecological component. The socio-economic situation of the affected people was not the overriding concern, and was not perceived to be so immediately and inextricably linked to the ecological condition.<sup>143</sup>

The Hague symposium of 1991 determined that on a global level, the new models of sustainable development must be based on certain guiding principles, one of these being:

"First, these development models must place people at the very centre of their concern. Environmental protection is vital. But it is not an end in itself. Like economic growth, it is merely a means. The primary objective of our efforts must be to protect human life and human options. Every environmental measure must

be tested against that yardstick: to what extent it adds to the human welfare of the majority of the world's population. In other words, we must begin to recognise that the most endangered species in many places on our planet are the people".<sup>144</sup>

The views of the affected people have therefore to be taken into consideration in project design and implementation, in order to improve project viability and sustainability.

A study by **Nagle and Ghose**<sup>145</sup> reviewing world Bank projects involving participation, found that there was a clearly demonstrated link between public participation, project success and sustainability.

This section is concerned with public participation as a component in the EIA process, in both developed and developing countries. We will identify some of the approaches used to secure public participation and evaluate the effectiveness of these approaches.

### **3.5.2 PUBLIC PARTICIPATION IN THE INDUSTRIALIZED COUNTRIES**

In the industrialized countries with democratic political traditions, the public is generally given ample opportunity to provide comments and review materials throughout the EIA process. However, it is important to make a distinction between public presentation of EIA information, and public participation in the final statement on the environmental

viability of the undertaking. Participants involved in consultations during EIA often express doubt that any real change occurs in the project due to public input.<sup>146</sup> Nevertheless the degree of public participation or presentation in developed countries is at a much higher level than that found in developing countries.

In the USA, citizens are involved much earlier in the planning process, beginning with scoping. The first public hearing often takes place even before the preparation of the draft E.I.S, and always after its completion. A second hearing is conducted when the final E.I.S is completed. Public participation, however, is not limited to hearings. The formation of citizens' advisory groups, the distribution of questionnaires and polls, and other anticipation strategies often accompany the formal hearing process. In addition, under the **US Freedom of Information Act**, American citizens have the right of access to all planning documents, and can sue federal agencies if it appears that the E.I.S. was inadequate.<sup>147</sup>

In the USA, the courts and citizen groups have played an active role in NEPA's implementation. Although an active judicial role in NEPA's implementation was generally not anticipated, the courts quickly established themselves as the principal interpreters and enforcers of the Act.<sup>148</sup> Soon after NEPA's enactment there was a lot of litigation, mainly focusing on the interpretation of the Act. The Federal courts found themselves at the centre of these disputes.

The American experience has been unique. Courts have taken an active role in NEPA's implementation in three ways. Firstly, they have policed EIA procedures by examining whether agencies have followed the specific steps set out in section 102 (2) (C). Secondly, they have looked for more than mere compliance with procedural formalities, and have examined whether, in fact, agencies have given serious consideration to environmental factors in their decisions. Thus, courts will closely scrutinise the manner in which agencies conduct their final decision-making; it has to be conducted fully and in good faith. Thirdly, the courts have gone as far as to review agency decisions on the merits.<sup>149</sup>

The supervisory role of the courts has been possible due to the active watchdog functions performed by the citizens' groups and individual plaintiffs. But even this active citizen's role was only made possible by the courts through judicial expansion of traditional notions of standing to sue.<sup>150</sup>

In a 1973 decision the supreme court held that the mere fact that everyone in a nation might have standing to challenge the action in question did not mean that the few plaintiffs before the court were any less qualified.<sup>151</sup> The court reasoned that "to deny standing...simply because many others are injured would mean that the most injurious and widespread government action could be questioned by nobody".<sup>152</sup>

It is appropriate at this point to raise the issue of how effective legislation on EIA, such as NEPA, would be in a country where broad citizen participation of this type was not possible. Its enforcement ultimately depends on litigation in court. The expectation of procedural propriety on the part of the proponent would be limited by all the inadequacies seen in the first chapter, where the limitation of the common law with regard to standing to sue were discussed. This position obtains in many developing countries, including Kenya.

It is also likely to be that the absence of concerned and well-endowed citizens would mean that no challenge would be made to test the extent of an agency's or a proponent's compliance with the action-forcing provisions.<sup>153</sup> Unlike the U.S.A. - NEPA process, EIA decisions in other countries are not subject to judicial review.

In **Canada** , since the decision to undertake or not undertake EIA lies within the discretion of the minister, it is not subject to judicial review. The public is greatly disadvantaged and plays a very limited role. The public lacks access to information beyond the EIA document. Project initiators are easily able to withhold vital information from the public. Furthermore, because of the discretionary nature of the EIA, public comments may be of little consequence at the end of the day.<sup>154</sup>

The limitations of reliance on litigation have already been remarked upon. In this context, the non-judicial and consultative approach of the Canadian system can offer a preferable approach to this question in countries where the US model is unworkable. Under the Canadian system, where an initiating agency screens a project for potential adverse environmental effects, and decides that there exist such effects, it requests the chairman of the FEARO to establish a panel to consider the issues.<sup>155</sup>

The panel is made up of experts appointed by FEARO and the Department of Environment. The panel views the EIS, obtains public reaction to it, and seeks any other information deemed necessary, and then advises the minister whether the project is acceptable or not.<sup>156</sup> This arrangement has its limitation as already stated, as the public has no means of forcing a particular view to be taken of the project.

However, its basically consultative methodology (unlike the judicial review approach in the USA) is seen as permitting a less contentious projection of environmental consideration.<sup>157</sup> The Netherlands also has a review panel established as a special commission to review E.I.A. and in most Scandinavian countries, the review function is carried out by steering groups consisting of representatives of the various agencies involved in the planning of a particular project.<sup>158</sup> Under ideal circumstances this method is preferable in developing countries, where most people cannot afford costly litigation and have restricted locus standi.

In **Australia** the public has very little input into the EIA process, for two reasons. These are, firstly, the discretionary nature of the E.I.A legislation, and secondly, the great limitation on legal standing.<sup>159</sup> The **Iwasaki** case illustrates the extent to which the government was prepared to shortcut or ignore both the administrative steps and the substantive requirements of an EIA set out in the procedures.

In April 1978 Iwasaki Sangyo Property Limited submitted an EIA to the Investments Review Board, which the Board found inadequate. Remarkably the same Board recommended that the project proceed. The government approval for the project to proceed was announced a month before the final EIA was available.<sup>161</sup> The Australia Conservation Foundation (ACF) took the government to court for this and other alleged breaches of the Act and procedures, but the court held that the ACF did not have legal standing in the matter.<sup>162</sup>

This court ruling demonstrated that, as well as the great degree of ministerial and administrative discretion written into legislation, even where there is a breach, there is usually little that public interest groups can do by way of legal action to enforce compliance.<sup>163</sup>

The **Newzealand** EIA is unique in its accessibility to the general public. Consequently the public are more familiar with EIA procedures than with any other statutory



procedure.<sup>164</sup> A major weakness that previously hindered effective EIA implementation was the non-legal nature of the legislation. However in 1979 regulations was passed as we have already seen, and the community is able to participate more fully.

The **European Union Directive** on EIA contains provisions for public participation. This is to be found in Article 8 of the Directive, which states that the competent authority shall make publicly available all relevant documents and information gathered and shall arrange appropriate consultation with the public concerned. This is an acceptable provision and should be easily replicable.

However the Directive goes further to state, in the same article, that the public authority shall decide the best means for giving the information. This may water down the effectiveness of Article 8, as it leaves the means used at the discretion of the concerned agency. Nevertheless, at least under the directive the problem of public participation is not so much a question of "whether or not", but rather "how much", and "to what extent". We feel that legislation and procedures should go further and lay down the means to be used in passing the relevant information to the public.

In **Germany** public participation is limited to the final stages only. This may render the views of the public redundant, as it may be too late in the process to accommodate new opinions. Furthermore, very few suits are instituted where an EIA is believed to be

inadequate. Generally speaking only individuals whose health or property rights are threatened can take legal action.<sup>165</sup> In **France**, action can be brought by a limited number of environmental groups which have been officially recognized by public authorities.<sup>166</sup>

The **Dutch** system of public participation is very effective. Public participation is to take place before the document is prepared and must be taken into account by the competent authorities in arriving at their decisions. It even goes further to state that everybody, including citizens of neighbouring countries, will have the opportunity to give their views.<sup>167</sup> This is indeed the ideal situation because there is no need to have provisions requiring the public to participate if their views are not going to be considered, or if such information is sought too late in the process to be effectively incorporated in the report. The Dutch have even moved further into the area of transboundary pollution, and when undertaking EIA consideration will be given to the impact of proposed projects in neighbouring countries.

**Norway** and **Spain** also have provisions relating to public participation. In **Norway** the regulations and the review process facilitate the participation of the local and central authorities, interest groups and the public.<sup>168</sup> In **Spain** the EIA reports are open to public scrutiny through legal proceedings.<sup>169</sup>

From the above description it is clear that in many developed countries the EIA process provides for public participation in one form or another. The only thing that varies is the degree to which such participation actually takes place.

### **3:5:3 PUBLIC PARTICIPATION IN THE DEVELOPING COUNTRIES**

Governments in developing countries, especially in Africa, are ill-prepared to meet EIA requirements. A World Bank report (1989) states that development efforts in Africa have failed partly due to inappropriate behaviour of governments. Governments have adopted a top-down approach to development that demotivates ordinary people, whose energies are most needed to mobilize the development effort.<sup>170</sup>

The lack of truly free democratic institutions in Africa has also been a hinderance to popular public participation, as the enabling environment for such participation is far from favourable.

There are other factors too which make it difficult for more people in developing countries to participate in public decision-making, including the EIA process. **Cynthia Cook and Paula Donnelly-Roark** lay down some of these factors, in their study, as including the following:<sup>171</sup>

- (i) Poverty : which is a major disabling factor. Where people are concerned with day-to-day survival they can hardly give high priority to participating in decisions relating to the distant future.
- (ii) Rurality : most of the developing countries have the bulk of their population living in the rural areas. This has its attendant problems which include the high cost of reaching such population.
- (iii) Illiteracy and proliferation of local languages : these are further barriers to participation.
- (iv) Social and cultural patterns : these constrain the participation of women, young people and certain ethnic groups.
- (v) Conflicts between customary law and modern legal systems, particularly concerning rights and responsibilities with respect to local resources that can complicate the participation process.

The above points capture aptly the existing situation in many developing countries. It is within this context that we will analysis the available literature on public participation in developing countries, and make recommendations. It is appropriate to observe here that

despite the pessimistic picture given above there has been a resurgence of popular participation in development in Africa. This has largely been expressed through NGO's rather than through participation in the bureaucratic processes of governments.

An NGO initiative at the UN General Assembly, in 1988, led to the organization of an international conference on popular participation in the recovery and development process in Africa, held at Arusha, Tanzania in 1990. The meeting came up with the Arusha Declaration which calls upon African governments to establish a new partnership with people, ensuring the involvement of women at all levels of decision-making.<sup>172</sup>

With regard to EIA, hardly any Sub-Saharan country has yet established formal requirements, although in some countries such requirements may be implicit in legislation and regulations pertaining to mining construction and industrial development.<sup>173</sup> Countries that have prepared National Environment Action Plans (NEAP's) with World Bank and other donor-assistance<sup>174</sup> have all placed the enactment of EIA legislation high on their policy agenda. Without such a legislative framework, there can be no effective domestic policy or public participation in environmental assessment.

Cook and Donnely- Roark evaluate World Bank experience with local participation in the first generation of EIA undertaken for some World Bank-financed projects in Africa. They evaluated a total of 35 EIA's in 25 countries, with most of them in Sub-Saharan

Africa. These included Ghana, Madagascar, Malawi, Mozambique, Senegal, Kenya and Nigeria. The study reviewed the various approaches used in sub-saharan Africa to secure local participation in the EIA's, and defined primary issues relating to EIA effectiveness. The findings were that, out of the 35 EIA's, only 10 were participatory in nature. The approaches used included consultations at scoping meetings, and meetings to present draft EIA reports.<sup>175</sup>

The study concludes that real local participation did not occur at all. The report further states that it was not clear whether those involved in the EIA process understood that local groups were to be given the opportunity to influence project decisions, as opposed to only informing them of project plans. For instance, a number of EIA reports called for people's participation in the project itself but the project consultants did not discuss project alternatives with the local people during the process.<sup>176</sup>

**Mauritius** is moving away from this situation that is common in Africa. The country is seeking to formally recognise community participation in its new EIA legislation. The Environmental Protection Bill makes provision for public comment, public hearing and for the rights of interested individuals to be heard in its new EIA procedures<sup>177</sup> In addition, the structure of the Environmental Adjudication Tribunal ,which among other things has the power to hear disputes arising out of EIA, is such that it can include among its membership representatives of affected communities in a dispute involving a

particular development project in a specific locality.<sup>178</sup> New EIA legislation in African countries should also seriously consider inclusion of a public hearing mechanism in EIA systems.

In the **Philippines** the general public may participate in public hearings which may be called by the National Environmental Policy Council (NEPC), if the expected environmental impact is deemed to be of substantial magnitude.<sup>179</sup> However this provision should be read in the light of the shortcomings already highlighted regarding the EIA process in the Philippines.

There are no environmental groups in the Philippines with the political and material resources needed to bring environmental law suits against public agencies. Moreover, until recently, there was no precedent for government agencies being brought to court through third party litigation, something that would be required in the case of EIA lawsuits based on alleged failure to conduct EIA's. As in many other countries, the lack of a broadened concept of standing in the system, makes it difficult for the environmental groups to challenge agency action in court.<sup>180</sup>

The Korean EIA system does not allow public participation or external input by concerned agencies. This severely compromises the accountability of the concerned

agencies.<sup>181</sup> This is the position in **Brazil** also, where the present law does not require review and participation by concerned agencies or the general public.

Public participation in EIA is not required in the new legislation in **Thailand**. Some in the government argue that public interest is taken into consideration through the potential representation of NGO's on the National Environmental Board, which reviews the EIA report for public sector projects.<sup>182</sup>

The Environmental Quality Management Action plan, provided for in Section 6 of the National Environmental Quality Act, however, grants rights and duties to individuals "for the purposes of public participation in the enhancement and conservation of national environmental quality." Unfortunately, in practice the interests of the public, or affected communities, have not been taken into consideration.

#### **3.5.4 CONCLUSIONS**

Public participation, as a component of EIA, has not been effectively incorporated into EIA processes and EIA legislation all over the World. This is particularly so with respect to the developing countries. Yet EIA remains a key element in the successful implementation of any development project whose objective is also to ensure that development is sustainable. This is not presently the case for a large majority of the



EIA's undertaken. Efforts should be made to improve the process of local participation in environmental project assessment, in developing countries. Where local or affected groups are not involved early and in meaningful way, in decision making, the EIA process will not be effective.

Little progress has been made in addressing the practical issues involved in achieving effective participation in developing countries. The result is that public participation does not feature strongly in developing country EIA's.<sup>183</sup> In the 1991 New Delhi conference on EIA the overall view of the participants was that the public had very little to say in the process, in nearly all developing countries.

## CHAPTER 4

### 4.0 CONCLUSION

#### 4:1 RECAPITULATION OF THE RESEARCH OBJECTIVES

The overall goal of this study was to critically examine the role played by the existing legal and institutional framework, in the protection and management of the environment in Kenya, with particular reference to Environmental Impact Assessment. The study seeks to make recommendations on the overall context of environmental planning and management, and on the legal, procedural and institutional framework for the administration of the EIA process.

In pursuing this goal the study has been guided by a number of specific objectives. These objectives are annexed to the thesis. Briefly, the objective of this study is to critically examine the role played by the existing legal and institutional framework in the protection and management of the environment in Kenya, with particular reference to EIA.

The study examines the EIA system as it is currently implemented, and considers its efficacy and implementation with regard to air and water pollution control.

The study also compares and contrasts the Kenyan experience with EIA implementation with that of other countries.

In pursuing the objectives of this study we were able to come to a number of conclusions which go to support the hypothesis upon which this study proceeded. The major hypothesis with which the study began was that the existing legal and institutional framework in Kenya is not adequate for the purpose of implementing Environmental Impact Assessment as a device for the protection and management of the environment.

Our analysis of the relevant data leads us to draw certain conclusions, and also to make certain recommendations which, in our view, will go towards enhancing the legal and institutional framework for the implementation of EIA. This will in turn help strengthen the regime for environmental management and protection.

The discussion below summarizes the analysis carried out in this dissertation and the specific findings, as well as the overall conclusions and recommendations of this study.

#### **4:2 CONCLUSIONS AND RECOMMENDATIONS**

In Chapter One we examined the concepts that are central to this study. These include environment, environmental management and protection, sustainable development and

Environmental Impact Assessment (E.I.A) With regard to sustainable development we propose a trade -off between development and environmental management. We propose that the emerging concept of eco- development should be seriously considered. This is a synonym for the phrase "ecologically sound development", and it emphasizes the need for harmonizing economic, social and environmental concerns into the process of development.

We underlined the fact that economic instruments will definitely have a major role to play in the future, regarding the relationship between poverty, environment and development. However, at the moment economic instruments can play only a modest role in the developing countries. Such instruments have thus far been used in some developed. A general conclusion from these experiences is that, if, in spite of the sophisticated institutions of these economies, these instruments play only a modest role, they cannot be expected to do better in developing countries. On the other hand, environmental law is shown to be more suited to the task of environmental management, as it has certain inherent advantages which are likely to render it more successful than any other device in the task of management.

Common law doctrines were analysed with a view to identifying their contribution and usefulness in the field of environmental management. We found out that the common law is severely limited as an instrument of environmental protection. One of its main defects

is the restricted grounds for action, or locus standi. Our recommendation here is that locus standi should be extended to include the wider public. This may force the concerned bodies and agencies to redefine their roles and mission in the light of citizens' demands and the public interest. If concerned groups have standing to seek redress, it removes artificial barriers to the effective representation of important interests, before regulatory bodies and courts of law.

Environmental Impact Assessment was depicted as a device for environmental management. EIA has emerged as one of the most valuable tools for good environmental management. It is important to keep in mind that while EIA is a useful tool, it is not a panacea for a nation's environmental problems. It is not a substitute for comprehensive measures to deal with environmental problems. It is only one element in the package of measures that must be taken in the process of environmental protection.

The EIA process itself has been analysed, and its essential stages outlined. One particular stage, i.e public participation, is worthy of further comment. Public participation is a most significant aspect of EIA. Public projects are implemented to serve society. It is therefore important to determine whether a proposed project matches the perceived needs of the society. The objectives of public participation are:-

- (a) to inform or educate the public;

- (b) to identify problems, needs and values;
- (c) to seek approaches to problem- solving;
- (d) to seek reaction (feedback) to proposed solutions;
- (e) to evaluate alternatives; and
- (f) to resolve conflicts.

Each country should identify the most effective means of soliciting public comment, as it is vital for the successful implementation of the EIA process.

One of the major tasks that many developing countries, including Kenya, will have to face will be that of institutionalizing community participation. The principal ways in which this might be done include:-

- (a) involvement of affected groups or communities in scoping sessions;
- (b) participation in EIA reports; and
- (c) review of EIA reports.

This can be done by enacting an EIA law that requires the role of the community to be clearly defined, in the terms of reference for EIA reports.

It is important for the law-makers to recognize that some aspects of EIA are more suited to community participation than others. It may, for example, be difficult to involve

communities in post- EIA tasks like monitoring; it should however be relatively easy to involve them in pre-EIA processes.

The usually complicated technical language often used in EIS has unconsciously discouraged both local communities and decision-makers from actively participating in the process, because they do not easily understand it. Improvements can be made by limiting or eliminating unjustified technical jargon, for example, by specifically requiring a non- technical summary.

Effective participation also depends on the amount of information given. One of the objectives of EIA law should, therefore be to facilitate access to information. The law should require the publication of notices regarding EIA and should ensure that notices are published in a manner that will bring them to the attention of all affected people. It is also advisable to augment modern methods of publication of notices with traditional ones, for example, notification through local chiefs and elders.

There is a clear need for EIA in countries like Kenya, which face the challenges of balanced development. However, the possibilities of its application have not been fully explored. EIA should be introduced as an integral part of the decision-making process, as a tool to be applied continuously through the planning, implementation and management stages of a given activity.

Developing countries should develop and adopt methodologies that are relevant to their socio-economic context. Mechanical transportation of appraisal tools and procedures from one country to another, especially from the developed ones to the developing ones, should be avoided.

There is a divergence between EIA theory as expounded in publications, and EIA practices as they obtain in the developing countries. There is, in these countries, a perception that EIA is anti-development. This is partly responsible for the lack of political will in some developing countries to integrate EIA into the development process. However, this is a misunderstanding of EIA. EIA is a tool for development planning. Decision makers frequently have to answer the question: which alternative project best yields the required economic and social benefits at an acceptable financial and environmental cost? When used to answer this question, EIA is a complement to development.

In chapter two we analysed and evaluated the framework for the management of natural resources and for the implementation of EIA in Kenya. The major environmental problems facing Kenya today have been considered. Two categories of environmental problems are identified, namely, those which arise from poverty and under-development, and those which arise from growth in economic activity and development. The latter ones formed our main concern. Industrial pollution, in the form of air and water pollution,



are identified and analysed as critical areas of concern. The major polluting industries are also considered. The recommendation to be made here is that there is a need to strengthen the capacity to assess projects before they are established, and to ensure that environmental guidelines are adhered to. Kenya does not have in place what may be called a coherent policy on environmental management. Any EIA requirement cannot operate effectively as long as it has to operate in the absence of a broad environmental policy that is backed by legislation.

Existing environmental legislation is also analysed; and the conclusion reached is that none of the statutes was formulated with the direct object of environmental management and protection; rather, such legislation was first and foremost designed for the regulation of economic resources, and the concern with environmental protection was therefore largely incidental.

The Water Act is analysed in detail, and the following conclusions are drawn. Firstly, the Water Act does not lay down any standards to be observed. Secondly, most of the penalties in the current statute are not deterrent to potential polluters. Thirdly, the EIA topologies in the Water Act are inadequate to facilitate the protection of water resources. Similar limitations are noticed also with regard to legislation relating to air pollution.

Chapter 2 also evaluates the role of NES in the promotion of EIA in industrial projects in Kenya. Case studies are used to evaluate the EIA policies and practices. When NES was created the relevant executive circular did not spell out for NES any implementational powers, and this meant that NES's role was to remain passive and vague. It is unsurprising that, in practice, NES's efforts to promote EIA in the industrial sector have not been successful. This is largely because the concerned agencies have not cooperated in bringing their projects to NES's attention, and NES does not have any legal basis to enforce its requirements.

The analysis of NES, TARDA and the case studies indicate that EIA's are implemented effectively in some contexts in Kenya.

However, in spite of EIA being implemented in different contexts, EIA has not yet been effectively institutionalized in Kenya.

The NEAP process and the NEAP report are also considered in this study. With regard to EIA, the report states that EIA has not been effectively integrated into the environmental planning and management levels. The NEAP report proposes that development projects and programmes in the private and public sector be subjected to EIA. The report makes recommendation for a single institution with legal authority to

coordinate the management of environmental resources. The new organisation should also be charged with the implementation of EIA.

With regard to legislation, there is no universal model for EIA legislation. There are, indeed, a number of approaches. It would be useful for Kenya to have a framework legislation on EIA, and thus to establish a legally binding set of procedures which seek to safeguard the environment while encouraging development.

The EIA law should include the following:-

- (a) a statement indicating when an EIA is necessary;
- (b) an indication of what the EIA must contain;
- (c) a section which empowers a certain body to review the EIA and another body to settle disputes;
- (d) a prescription of the legal/administrative sanctions where the law is not complied with.

Care should be taken in determining the extent to which monetary fines may be used as a sanction. Monetary fines are not always appropriate sanctions in EIA laws. A fine gives the defaulter the option of paying the fine and proceeding with his proposed action. Other sanctions may be more appropriate here. The review agency may be empowered to halt the proposed action until the necessary EIA has been conducted. Second, the review agency should be authorised to actually conduct the EIA itself, at the developers' cost, in the event of default by the latter. The success of environmental planning, and of the implementation of activities leading to better management of the environment within a given country, is determined by the effectiveness of the institutional mechanisms established to accomplish this task. A legal regime by itself, though an essential first step, cannot ensure that EIA will actually be conducted. Legal and institutional capacity should be simultaneously developed, as an infrastructure for the proper conduct of the EIA process.

Chapter three dealt with some of the types of agencies that have been established by different countries to perform functions relating to environmental planning and management. We saw that these agencies have varied sources of authority. Many are attached to sectoral ministries. There are also variations in the agencies' mandate, responsibilities, legal status and their hierarchical position within the overall government structure.

The legal status given to these institutions is critical to their success. In Kenya, as in many developing countries, this status has not yet been formalised. Without resolving this point, it is difficult for the agency to play its role particularly in the sphere of enforcement. To strengthen the environmental institutions, the choice of location of the agency is critical. Wherever the agency is located it should be in a place which allows it to effectively carry out its mandate and responsibilities. The institution created must be capable of coordinating line ministries, and this can only be achieved by placing it at a level well above that of line sectoral ministries.

There are a number of suggestions that can be made here. A separate Ministry of the Environment is one option. This is not an effective choice as the agency would be on the same hierarchical level as the other line ministries. This would make coordination of these ministries exceedingly difficult. A co-equal ministry will not be able to, or be allowed to interfere in the affairs of other ministries.

The second suggestion is the creation of an autonomous or semi-autonomous environmental agency. This agency should be located under a non-sectoral office. This would avoid conflicts of interest and rivalries between and among line ministries. The agency would address environmental issues in a holistic manner and would have a reasonable degree of independence to be able to avoid the constraints and difficulties of traditional bureaucracies.

It is becoming increasingly recognized that institutional capacity limitations constitute one of the obstacles to the use of EIA in developing countries. One of the most serious problems in EIA is with regard to institutional structure and institutional capacity within which the EIA process operates.

Chapter three examines the experience of other countries with regard to EIA implementation. There are different approaches to EIA. Some countries have a legislative mandate to implement EIA, while others have a purely administrative basis for it; and some countries have no requirement for EIA.

There are lessons to be learnt from the experience of other countries. However, there is a need to develop and adopt methodologies and criteria for appraisal, starting from national and local environment and development goals, and the local socio-economic context.

Mechanical transplantation of appraisal procedures from one country to another, especially from the developed to the developing countries should be avoided. Existing tools should be adapted to correspond to given local situations and phenomena, in order to ensure their effectiveness in a given context.

#### **4:3 CURRENT LAW REFORM INITIATIVES: THE ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION BILL,1995**

In September 1995, the Attorney- General announced that the above bill had been drafted and was under consideration before being tabled before Parliament.

The bill is intended to provide for the establishment of an appropriate legal and institutional framework for the management of the environment and natural resources.

Part II of the bill is concerned with general principles. Clause 4(1) provides that every person is entitled to a clean and healthy environment, and has a duty to safeguard and enhance the environment. Clause 4 (3) is interesting. It gives everybody the power to apply to court for redress where he alleges that his rights under clause 4(1) have been infringed. Clause 4(4) clarifies that any person can have capacity to bring such a suit and **need not** show that he has or is likely to suffer any personal loss or injury as a result of the defendants' act or omission.

Clause 4 expands locus standi, as it gives capacity to bring an action even to persons who cannot show that the defendants' act or omission has caused or is likely to cause them

any personal injury. The only requirements are that the suit should not be frivolous or vexatious, and should not be an abuse of the court process. What this means is that the courts will no longer be able to dismiss cases as easily as before on grounds of one not having locus standi. Concerned individuals, NGO's and other bodies can, under this bill, institute an action without the need to prove personal injury suffered or loss incurred.

Clause 8 of the bill proposes the establishment of a National Environmental Management Authority (herein after called the "Authority") Clause 10 deals with the functions of the Authority. Briefly, the Authority is to, inter alia, prepare in consultation with the relevant lead agencies, proposals of the country's environmental management policies; initiate legislative proposals; undertake research and disseminate information about the environment; identify projects and programmes, plans and policies for which environmental impact assessment must be conducted; and monitor and assess activities to ensure that the environment is not damaged by such activities.

Such an Environmental Management Authority is in line with our recommendations. However, the question of placement remains critical as we have already shown. Another noteworthy point is with regard to clause 10(e), which relates to the Authority's function with regard to the identification of projects and programmes, plans and policies for which EIA must be conducted. This clause implies that EIA will not only be undertaken at the project level, but also at the policy and decision-making level. This would be a model



for EIA, as many countries do not currently have EIA implemented at this level. If our interpretation is correct the Kenyan EIA would be implemented at the most critical and relevant phases.

Part VI is entitled Environmental Impact Assessment. Clause 42 deals with applications for an EIA licence. A proponent of a project must submit a brief to the Authority. After the Authority has studied the brief and its likely effects, the proponent shall undertake an EIA study where the Authority deems it necessary. The study is to be conducted in accordance with the guidelines issued by the Authority, in consultation with the relevant lead agencies. The guidelines shall include the following:-

- (a) format and content of the assessments;
- (b) procedure for conducting the assessments;
- (C) procedure for public participation;
- (d) matters the Authority considers relevant.

Clause 43 authorizes the Director-General to notify the public of any intended EIA and, the public has a right to submit written comments on the EIA study. Clauses 52 and 53 deal with environmental audit and environmental monitoring respectively. These steps we recommend as necessary in the EIA process.

Another noteworthy aspect is Part VII, which deals with environmental quality standards. Clause 54 establishes a standards and enforcement review committee. Clauses 55-61 deal with water quality standards, and provide, inter alia, for the establishment of criteria and procedures for the measurement of water quality, and for the prescription of minimum water quality standards. Similarly, Clauses 62 to 74 deal with air quality standards, and provide inter alia, for the establishment of criteria and procedures for the measurement of air quality.

These two matters, that is, water and air quality, are not the only ones dealt with. There are other provisions relating to, for example, noise pollution and hazardous waste. However, the two are the most relevant to our study. In chapter one, we highlighted the fact that the existing legislation does not provide for standards in relation to water quality and air quality; and this omission is to a large extent responsible for the current low environmental standards. These provisions in the new bill would go a long way towards helping achieve the goals of sustainable development, as there will be criteria or guidelines to be used as minimum acceptable standards.

Part XII is important as it deals with the Environmental Tribunal. Clause 134 provides for the establishment of the tribunal. Clauses 135 to 147 deal with the proceedings in the tribunal. The tribunal is to adjudicate on applications made to it in writing by any party. The decisions of the tribunal are subject to the right of appeal to the High Court. The

tribunal is a welcome aspect of the new bill, as it provides a forum for dispute resolution. This would be most useful in as far as EIA is concerned, as it would give the public a chance to lodge complaints when they feel that their comments on projects have not been fully considered.

Finally, it should be stated that the above analysis of the bill is not in any way exhaustive. This is because such an analysis would require a much more detailed treatment, and furthermore this would be outside the scope of our study. Our intention was only to draw out some of the salient points addressed in this bill. It does cover many of the areas dealt with in our study and does indeed provide for Environmental Impact Assessment as a prerequisite for any development activity. Clause 148 deals with offenses relating to EIA. Anyone who fails to comply with the requirements of the Act commits an offence and is liable on conviction to imprisonment for a term not less than eighteen months, or to a fine not less than five hundred thousand shillings, or to both such imprisonment and such fine.

A final note should be made here. The formulation of the new bill was timely, as the need for a framework law on the environment cannot be overemphasized. The bill may need further refinement in some aspects, but this can be achieved without too much labour. We now await the Attorney- General's next move, that is, tabling the bill before Parliament. We hope this time around there will be the requisite political will to see the

bill through. With the passing of the bill, Environmental Impact Assessment will have been effectively launched as a legally binding requirement in Kenya.

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- The Framework Convention on Climate Change, 1994.
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- The biodiversity Convention 1992.

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## **ANNEX 1**

### **RESEARCH OBJECTIVES AND HYPOTHESIS**

#### **A. RESEARCH OBJECTIVES**

##### **General Objectives**

The general objective of this study is to critically examine the role played by the existing legal and institutional framework, in the protection and management of the environment in Kenya with particular reference to the Environmental Impact Assessment. The study will attempt to make recommendations the overall context of environmental planning and management, the legal procedural and institutional framework for the administration of the EIA process.

##### **Specific Objectives**

1. To identify the environmental management policy in Kenya in general, and with regard to EIA in particular.



2. To identify and describe the legal and institutional arrangements concerned with environmental management and protection.
3. To critically examine and assess the efficacy of that framework for the purpose of implementing the environmental policy on EIA.
4. To critically examine and assess the efficacy at the EIA system currently implemented in Kenya.
5. To apply the existing EIA system to the problems of industrial pollution and assess the adequacy of the system.
6. To compare and contrast the Kenyan experience with EIA implementation with that of other countries.
7. To identify how and to what extent the experiences of these other countries can be applied within the Kenyan context in order to ameliorate the existing position.
8. To recommend legal, procedural and institutional changes which would increase the efficacy of implementation of the EIA system, and thereby generally improve the performance of the law in the protection and management of the environment.

## **B. HYPOTHESIS**

The major hypothesis with which this study begins is that the legal regulation and institutional framework for the implementation of EIA in Kenya is not adequate and is therefore ineffective.

This hypothesis can be broken down to the following specific proposition:-

1. That the role that EIA can play in the protection and management of the environment is critical.
2. That although there are other devices that can be used to protect the environment they are not as effective as EIA. For example economic tools and economic analysis is not of value for the long-term issues, because economic predictions rarely carry validity beyond five years.
3. That only EIA has the capacity to ensure environmentally sound and sustainable development. This is because EIA analyses environmental effects and brings this analysis to bear upon decisions.

4. That only a legislated EIA can be effective for purposes of environmental management. This is because the law will lend it the power and credibility it requires. Where EIA exists in a non-legislative form it is not effective as there is no action-forcing power, and therefore compliance is largely discretionary.
5. That the explicit goal of environmental protection and a legal mandate for EIA does not necessarily affirm successful implementation of EIA. The degree to which EIA is effective also hinges significantly on the institutional structure and the manner in which ~~the manner in which~~ the existing planning process responds to EIA.
6. That although to some degree public policies cannot be exported from one country to another without consideration for different political, economic and administrative framework, there are ways in which problems, policies and implementation are conceptually similar. A comparative mode of inquiry will aid in identifying the problems and solutions to the issues raised in these hypothesis.

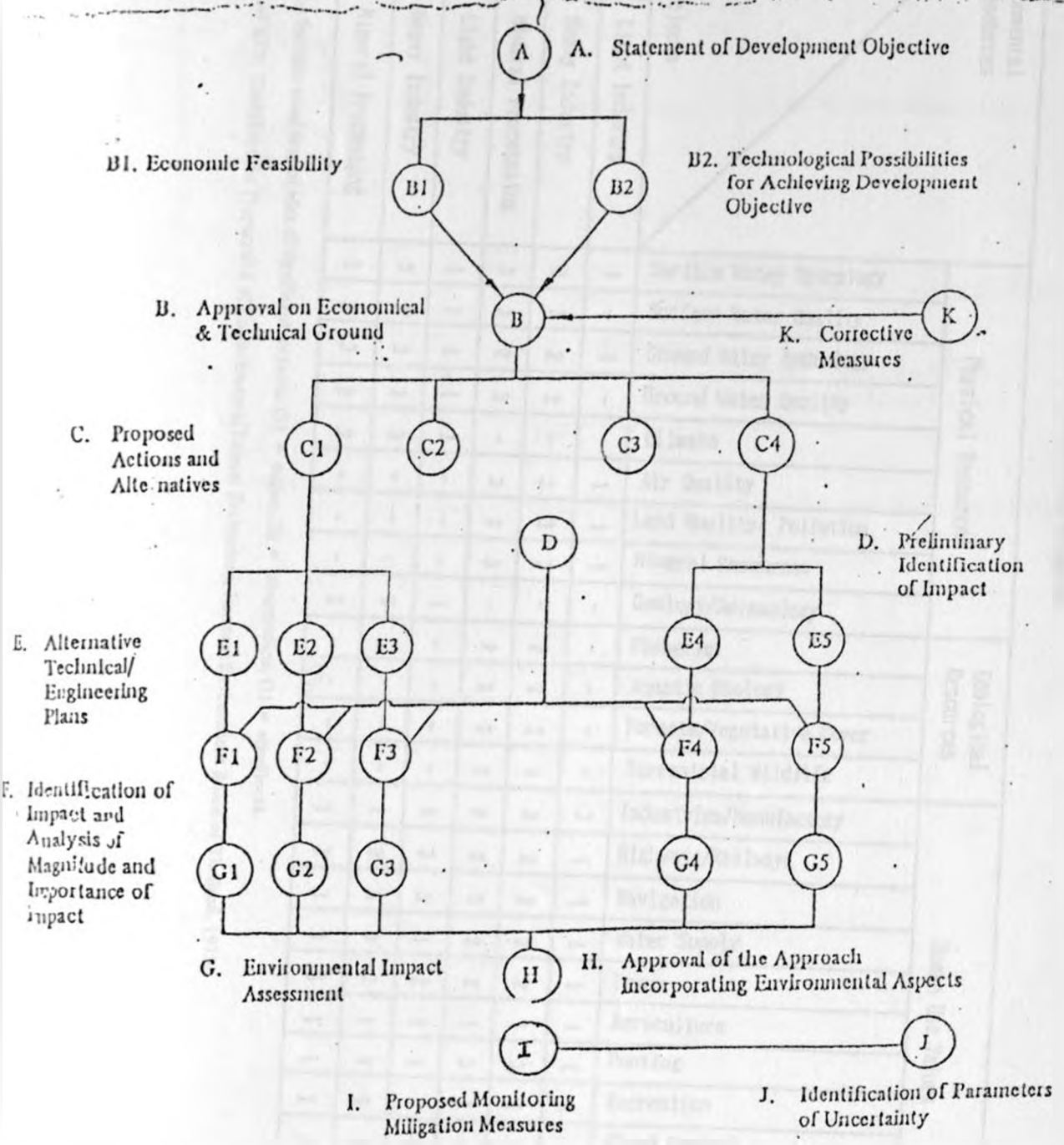


Fig. 1 Environmental impact assessment in development planning

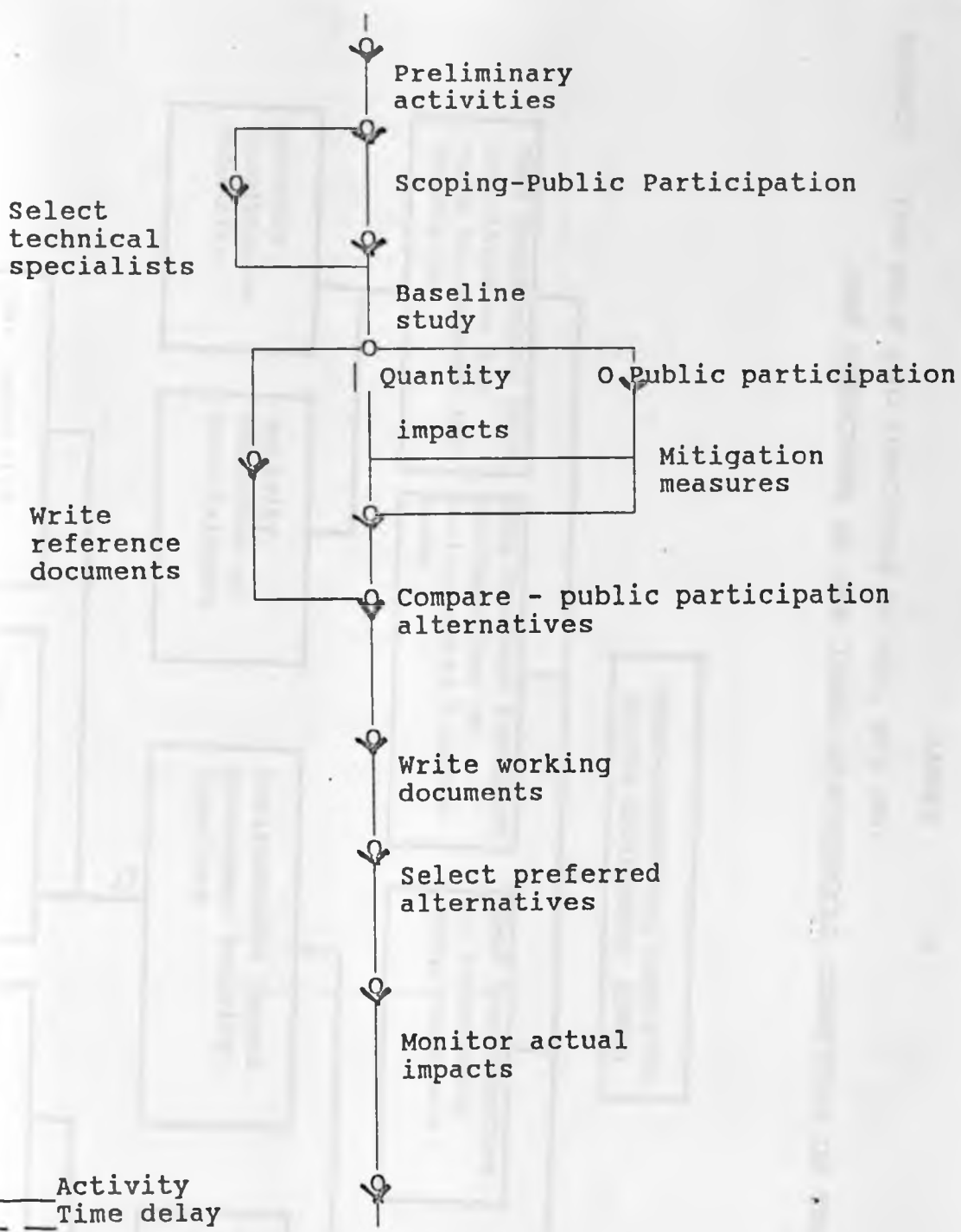
SOURCE: UN/ ESCAP 1985  
 ENVIRONMENTAL IMPACT ASSESSMENT GUIDELINES FOR  
 PLANNERS AND DECISIONMAKERS.

Table 1 Environmental Parameters for Analysis of Industrial Projects

Environmental Resources		Physical Resources								Ecological Resources				Human Use Values								Quality-of-Life Values								
		Surface Water Hydrology	Surface Water Quality	Ground Water Hydrology	Ground Water Quality	Climate	Air Quality	Land Quality: Pollution	Mineral Resources	Geology/Seismology	Fisheries	Aquatic Biology	Forests/Vegetative Cover	Terrestrial Wildlife	Industries/Manufactory	Highways/Railways	Navigation	Water Supply	Power	Agriculture	Housing	Recreation	Flood Control	Sewage Disposal	Solid Waste Disposal	Aesthetic	Public Health	Socio-Economic	Industrial Safety & Health	
Type of Projects																														
Impact on Environment	Light Industry	1	-	1	-	-	1	1	1	-	-	-	-	3	1	1	1	1	1	1	1	1	-	1	1	1	1	1	1	2
	Heavy Industry	3	3	2	2	-	3	3	3	-	2	2	2	1	3	2	2	2	2	1	3	1	-	2	2	3	3	3	3	
	Mineral Processing	3	3	2	2	-	3	3	3	-	2	2	2	1	3	2	2	2	2	1	3	1	-	2	2	3	3	3	3	
Impacts of Environment on Project	Light Industry	1	1	1	1	1	-	-	-	1	-	-	-	1	3	3	1	2	1	1	1	1	2	1	1	1	-	1	1	
	Heavy Industry	3	3	3	3	2	-	-	-	2	-	-	-	1	3	3	3	3	1	1	1	1	3	3	3	1	-	1	1	
	Mineral Processing	3	3	3	3	2	-	-	-	2	-	-	-	1	3	3	3	3	1	1	1	1	3	3	3	1	-	1	1	

Notes: Numbers indicate usual magnitudes of significant impacts: (3) = major, (2) = intermediate, (1) = significant.

Source: Manual of NEB: Guidelines for Preparation of Environmental Impact Evaluations, National Environment Board of Thailand, 1979



Note:      Activity  
 - - - - - Time delay

Fig. 2 Activity diagram for EIA  
 Source: Y.J. Ahmed and G.K. Sammy 1987  
 Guidelines to Environmental Impact  
 Assessment in Developing countries  
 UNEP Regional Series Report and Studies  
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SOURCE : THE ROLE AND FUNCTIONS OF NES, NES 1981

THE STRUCTURE OF THE INTER-MINISTERIAL COMMITTEE ON THE ENVIRONMENT (1987)

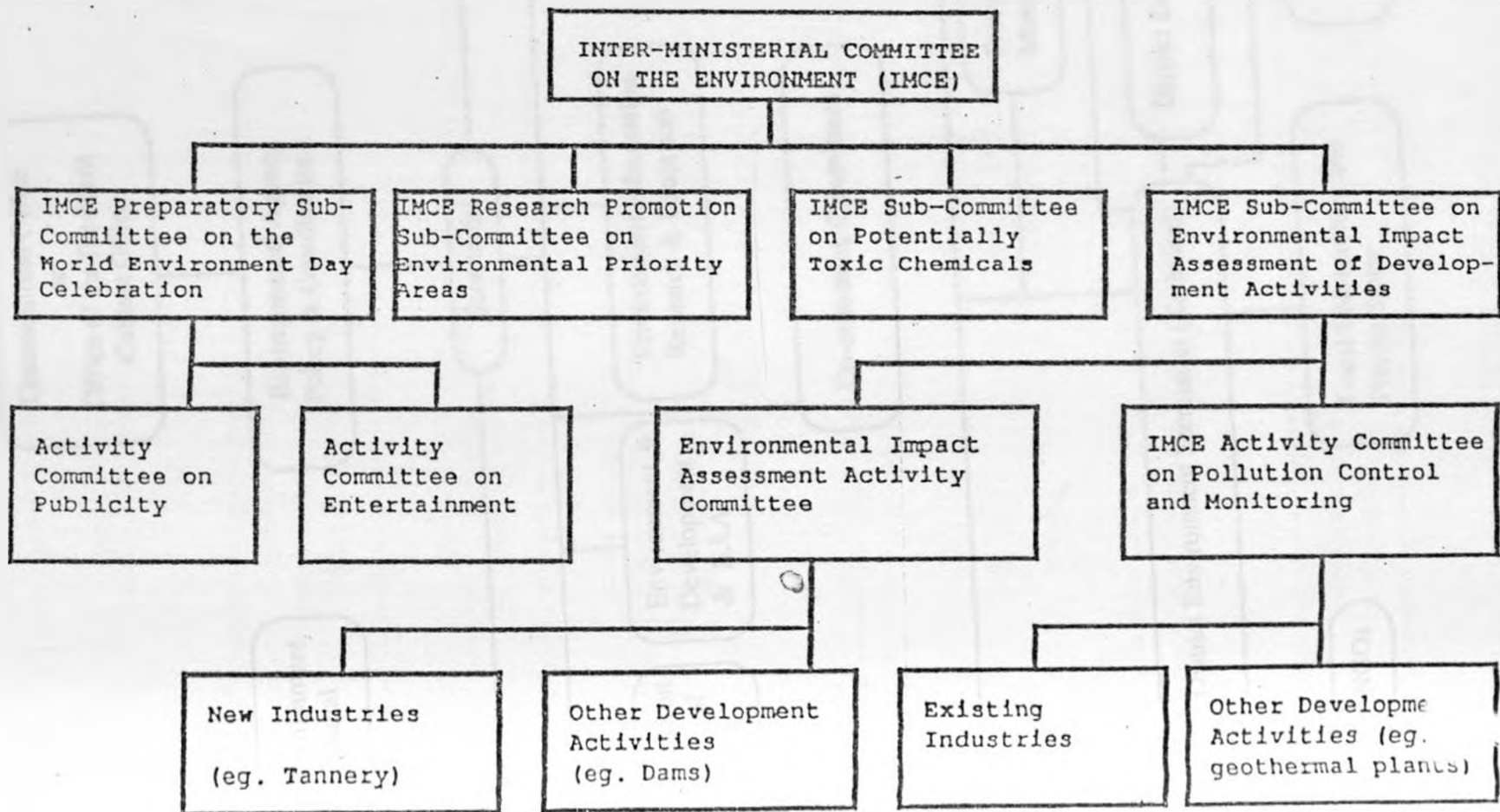


CHART 1

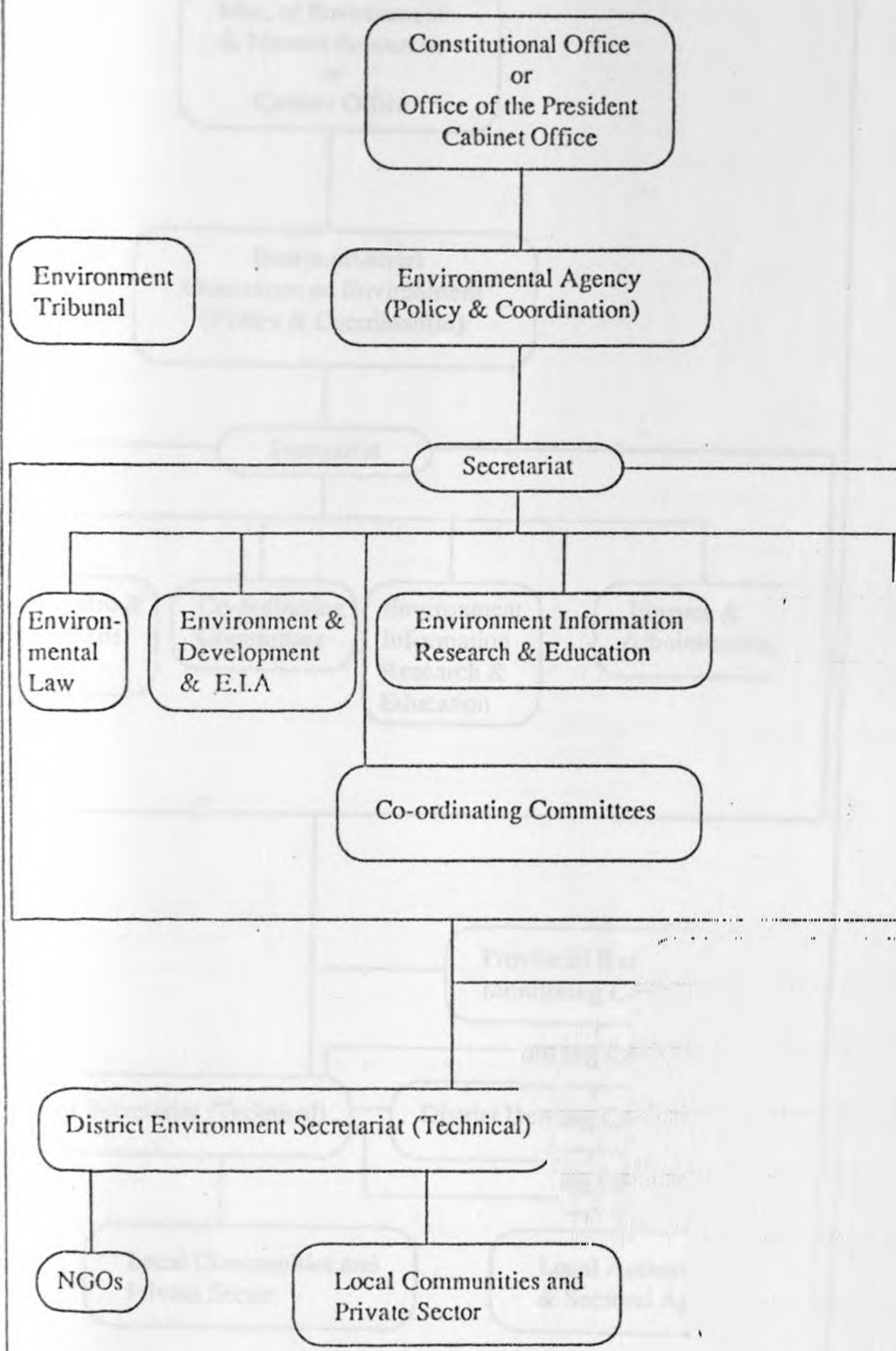




CHART 2

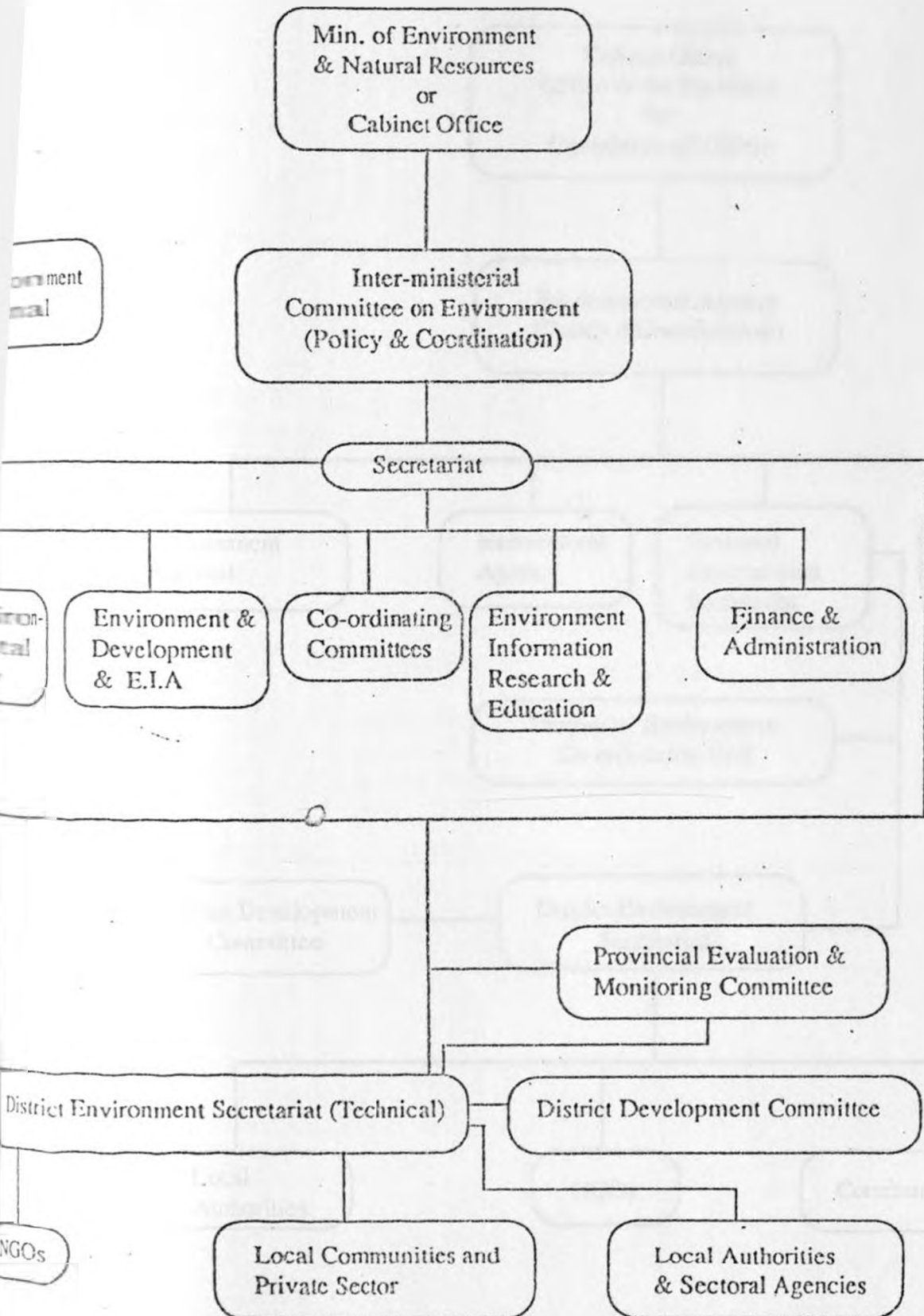


CHART 3

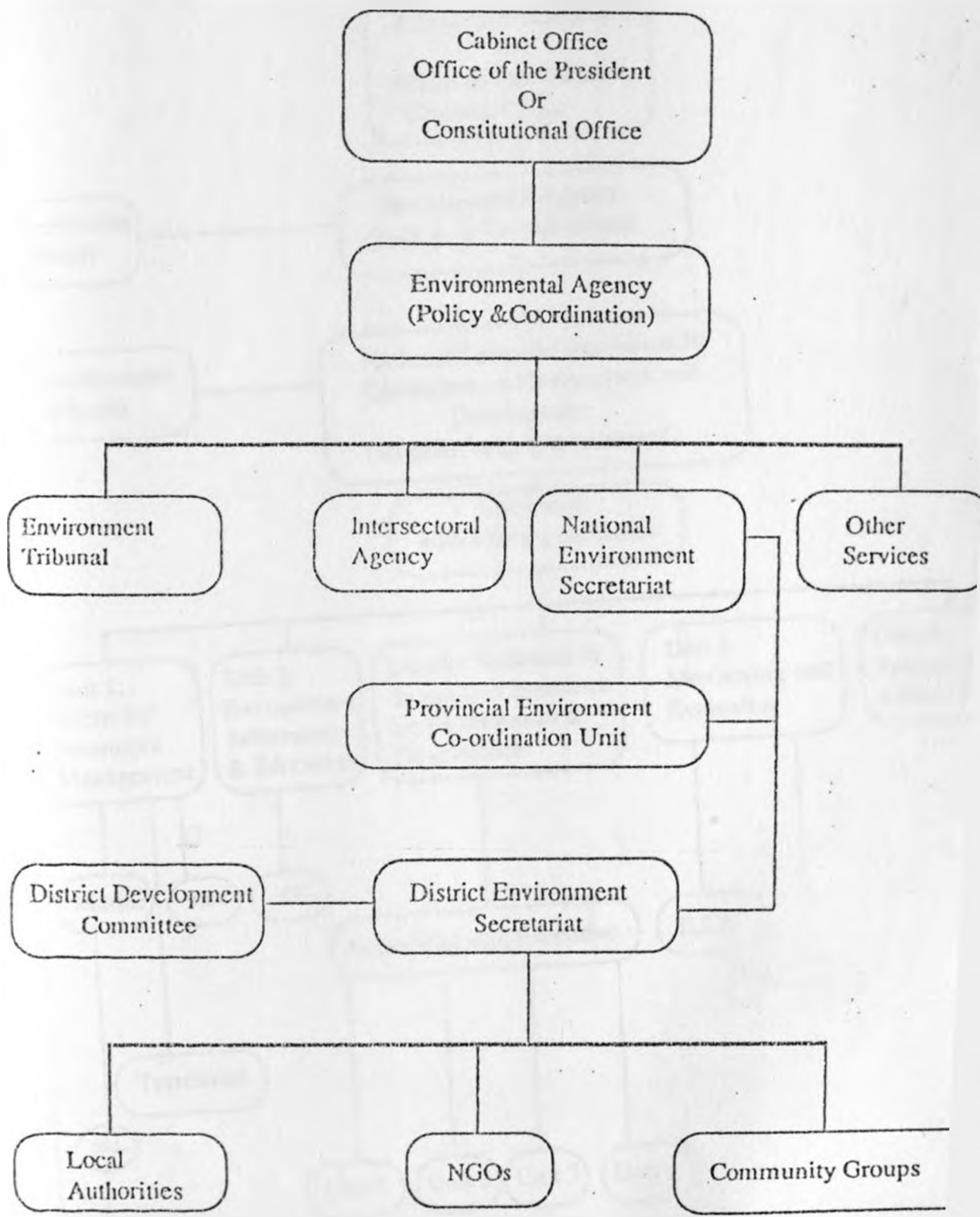
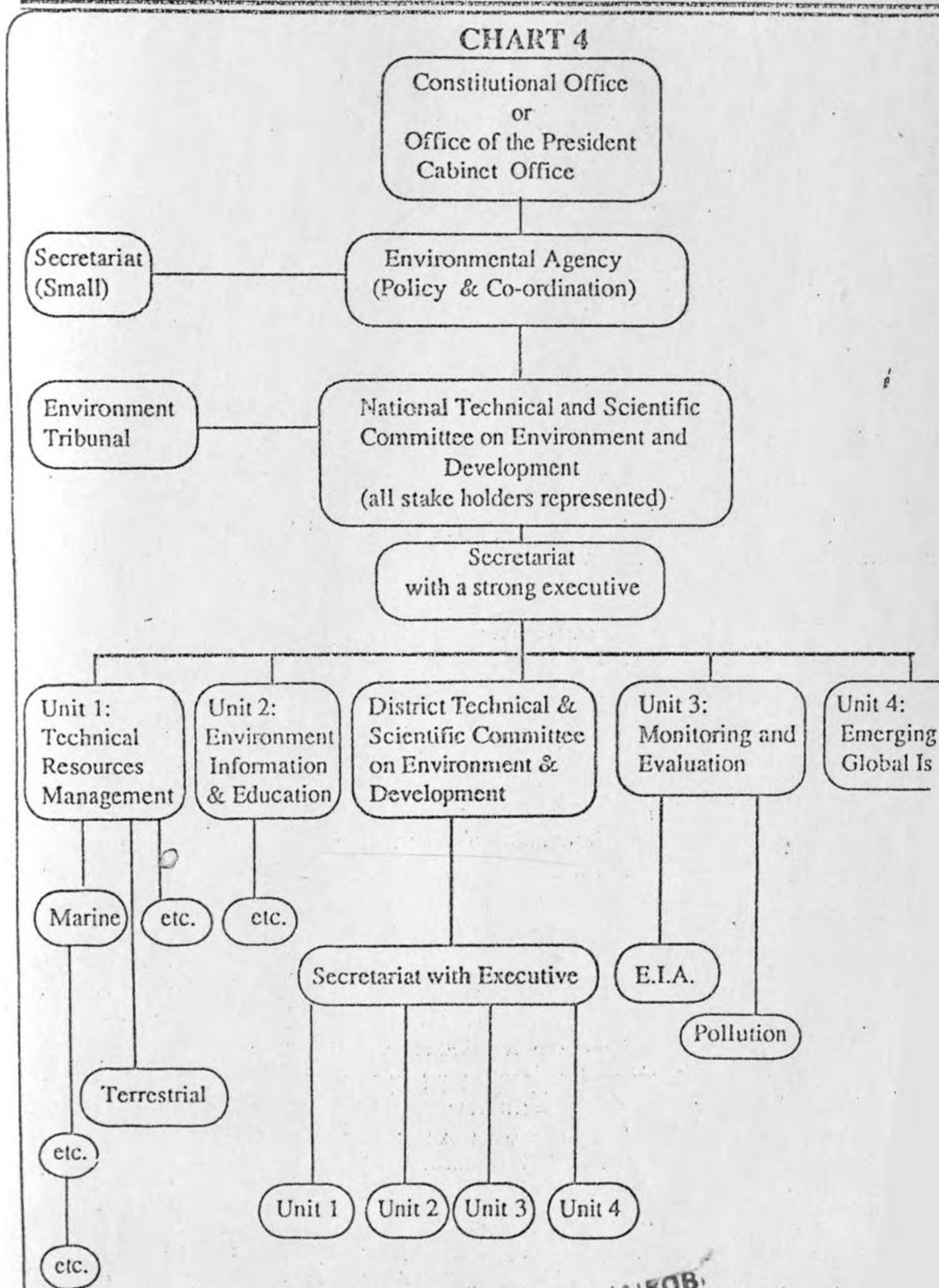


CHART 4



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