

**THE ROLE OF ENVIRONMENTAL IMPACT ASSESSMENT IN
PROMOTING SUSTAINABLE INDUSTRIAL DEVELOPMENT
(A CASE STUDY OF THE PLASTICS INDUSTRY IN KAMPALA)**

BY

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DECLARATION

I, **Mahoro Gloria Brenda** declare that this work has been produced by me and it has not been submitted in to any University for any award.

SIGNATURE:

DATE:17/10/2008.....

APPROVAL FOR SUBMISSION

This research report has been submitted with my approval as the University Supervisor to certify that the following research of Mahoro Gloria Brenda has been carried out under my supervision and is ready for submission to the department of Environmental Management.

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DATE: *1st November 2008.*

DEDICATION

This work is dedicated to my parents Mr.Seema Mugisha John and Mrs.Mugisha Anne who successfully saw me through school.

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I wish to extend my sincere gratitude to my supervisor. Ms Obbo, who, despite her heavy workload gave her assistance, patience and guidance during the exercise of carrying out this research and compiling the report.

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LIST OF ACRONYMS

EIA	Environmental Impact Assessment
ECE	Economic Commission for Europe
EIS	Environmental Impact Statement
IUCN	International Union for the Conservation of Nature
NAPE	National Association of Professional Environmentalists
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NEPA	National Environmental Policy Act
MUIENR	Makerere University Institute of Environment and Natural Resources
PDA	Post Decision Analysis
UNEP	United Nations Environment Program
WCED	World Commission on Environment and Development

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ABSTRACT

EIA is a critical examination of the potential effects of any proposed project on the environment with the aim of mitigating them. It has been noted that the role of EIA which ultimately is to achieve sustainable development, has not been played as expected.

This research aims at finding out the extent to which developers in the plastics industry are familiar with EIA and its role in promoting sustainable development, the problems encountered as the process is carried out and implemented and the benefits EIA has as regards sustainable development are also looked at. It also attempts to verify the contribution of EIA to sustainable development by comparing an industry that has carried out EIA and one which has not done so.

Benefits of EIA in promoting sustainable development are covered in the report and include the fact that it has become an international requirement for assessing and managing impacts on the environment, the specific focus EIA gives to projects has enabled efficiency in managing the environment, it has influenced development decisions to favor environmental management. EIA has also led to the avoidance of costly impacts to the environment, creation of environmental awareness and generally environmentally sound planning, all of which are important in promoting sustainable development

Some of the problems encountered in carrying out and implementing EIA covered in the report include; inadequate public participation which means some views are not represented, co-ordination problems between the lead agencies, practitioners and industries .There are also challenges in post EIA monitoring, the quality of EIAs produced is questionable and the value of EIA after project commencement has also created a problem of mistakes being made earlier hence EIA has no opportunity to address them.

In the industry that has carried out EIA, there are generally better environmental management practices than where the EIA was not done. Employees are environmentally conscious and their health and safety considerations are followed. The industry that has carried out EIA also has better public image and transparency than the one which did not do so.

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

From the 1960s, there was a growing awareness of environmental issues in the developing countries which continued through the 1970s, 80s, 90s and has taken center stage at global level today. Global, regional, international and national litigation has been enacted all over the world to enable environmentally sustainable resource use (Bear 1989). Among such initiatives is environmental impact assessment, a procedure that seeks to ensure the acquisition of adequate and early information on likely environment consequences of development projects, possible alternatives and measures to mitigate them.

Sustainable development according to the Brundtland Commission Report of 1987, *Our Common Future*, is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. Resources are exploited in such a way that the present generation does not jeopardize the ability of future generations to also exploit these resources for their needs. The concept of sustainable development arose out of the growing realization that the environment was rapidly degenerating especially in the developed industrialized world. Air pollution and polluted water were systematically endangering the lives of urban people on these areas and they were attributed to industrialization using inappropriate technologies. The developed world had realized that industrialization, which was synonymous with development that was supposed to make life easier, was actually a fallacy. Pollution was at its peak. It is against this background that EIA became a standard to foresee environmental problems and to try and mitigate environmental problems as they arose.

Throughout the 1970s and early 1980s, international agreements began imposing EIA requirements that were increasingly broad in their scope and detailed in their requirements and provisions (Jacobs and Sadler 1990). At present EIA is singularly important in both domestic and international environmental law. International instruments commonly provide that States should not undertake or authorize activities without prior consideration

at an early stage of their environmental effects. Some of these EIA provisions were written in the Kuwait Regional convention for cooperation on the Law of the Sea, the 1992 UN framework Convention on Climate Change, the Rio Declaration, Agenda 21, the Biodiversity Convention, the 1991 Espoo Convention, the 1991 Madrid Protocol on Environment Protection of the Antarctic to mention but a few. Every major and even minor litigation/convention no longer ignores environmental issues as central to development.

In Uganda, EIA legislation has been documented under the E.I.A regulations of 1998 under Section 107 of the National Environment Act Cap.153.

Article 3 Section (2) provides that no developer shall implement a project for which EIA is required under the Act and under these regulations unless the Environmental Impact Assessment has been concluded in accordance with these regulations.

Article 3 Section (3) points out that except as provided for in the Act and these regulations, a licensing authority under any law in force in Uganda shall require the production of a certificate of approval of EIA before issuing a license for any project identified in accordance with sub-regulation (1) of this regulation.

Section 3-(4) provides that an Inspector may at all reasonable time, enter on any land premises or other facilities to determine whether a project has complied with the requirements for EIA under the Act.

Article 19 Section (3) provides that an EIA shall be undertaken by the developer where the lead agency, in consultation with the executive directors is of the view that the project-

- a) May have an impact on the environment.
- b) Is likely to have a significant impact on the environment; or
- c) Will have a significant impact on the environment.

Article 19 Section 4, an EIA shall be undertaken by experts whose names and qualifications are approved by the authority.

Article 19 Section (5) provides that an EIA required in Subsection (3) shall be appropriate to the scale and possible effects of the project, and accordingly-

- a) Where the project may have an impact on the environment, an environmental impact review shall be conducted.
- b) Where the project will have a significant impact on the environment, an environmental impact study shall be conducted.

Article 19 Section (9) provides that the conduct of an EIA under this Section shall be published in such a manner as may be prescribed.

Sustainable development, as already noted, is the exploitation of resources in such a way that current generations meet their needs without jeopardizing the ability of future generations to also exploit the same resources for their needs. The East African, manufacturing industry is steadily expanding to include industries such as textiles, Pharmaceuticals, oil refineries, food processing, plastics and other improvements in science and technology. This has added to human comforts but has brought with it several other consequences to the human and physical environment, hence the need for EIA before establishment of any industries.

The “Industrialize now-clean up later” approach must be avoided in order to prevent destruction /depletion of the natural resources upon which the East African industry stands. Efforts must be made to maintain a balance between narrowly defined economic benefits of industrial pollution and the environmental needs consistent with a sustainable society (Cleaner Production in Uganda, 2003). Sustainable development can only be achieved through processes that don’t undermine the integrity of the environment on which they depend. It is in fact the development process, whether industrial or not, that enhances people’s capacity to create and consume wealth as well as sustain quality of life on a lasting basis, (National Association of Professional Environmentalist (NAPE) Lobby, 2004). It is on this basis that this research was done on two plastic industries in Kampala, to find out the role EIA has played in ensuring that they develop sustainably.

In order to industrialize sustainably, several steps have to be taken to ensure that the effects on the environment are minimized. These include EIA, and the subsequent monitoring, cleaner production techniques, use of tradable permits to counter pollution, environmental education, pollution costs and sectoral policies among others.

The 1987 report of The Brundtland Commission, *Our Common Future*, sounded an urgent call for global environmental strategies for achieving sustainable development based on identification of long-term environmental issues and definition of appropriate efforts to protect and enhance the environment. It went on to state that, "The ability to choose policy paths that are sustainable requires that the ecological dimensions of the policy be considered at the same time as the economic, trade, energy, agricultural, industrial and other dimensions- on the same agendas, and in the same national and international institutions.

In Uganda, however the concept of sustainable development is still widely misunderstood as prevention from exploiting our resources and an agenda by the developed countries to keep us underdeveloped. As a result, EIAs are rarely carried out and where they are carried out, there is general hostility towards them. The conditions established in the EIAs are rarely followed and where they try to follow them, the companies/industries secretly break these conditions hence the need for research into how it has helped these industries grow sustainably.

Plastics have specifically become a serious environmental hazard especially in Uganda's urban areas like Kampala, where almost everywhere one turns there is some plastic waste littered around. They have caused solid waste management problems, blockage of drainages and soil degradations by blocking nutrients, (NEMA News January 2007). Two industries in Kampala were chosen for this study, that is, NICE, House of plastics and Plastics Recycling Industry . The study will cover the problems faced in implementing EIA, benefits of EIA and examine how it is applicable in the sustainable development of industries in Uganda.

1.2 Statement of the problem

Much as EIA is not a new environmental standard in Uganda it has not yet taken root in Uganda's industries. Some industries carry it out while others simply set up and start running, for reasons such as ignorance, political interference and the need to avoid spending their hard-earned capital. Usually, the larger industries are the ones that are pressured to produce their EIA reports while the smaller ones, some of which actually pose more danger to the environment are left to start operating without their EIAs.

For those industries that try to carry out EIAs, they are presented on paper but hardly implemented on the ground majorly because industrial economists find them wasteful and unprofitable especially in the short run. This is because many of the EIA provisions and costs are not directly related to production, that is to say, they may not necessarily increase production in the short run. However, they help in maintenance of ecological integrity, which is the benchmark of production as it supplies the raw materials that make significant contribution to the production of any industry. This, being a long term benefit, is not easily acceptable and is in most cases ignored.

The concept of sustainability in development is yet to take root in Uganda. Industries have not incorporated sustainability into their operations therefore they do not look at the economy in the long run, which is more important and is also the focus of EIA. This explains why many natural resource-based industries in Uganda have collapsed after depleting the resources on which they depend or destroying/polluting them hence lacking a source of raw materials. With the neglect of EIA that is rampant in Uganda, it appears that more industries might have to shut down if they do not mitigate the problems that arise during production. This kind of unsustainable industrialization is the basis for carrying out this study.

1.3 Significance of the Study

This study will avail information on a clearer picture of what is actually going on in industries as regards EIA and industrial sustainable development. This will help the

government to determine the relevant course of action to take to ensure an environmentally sound switch from agro-based to an industrial economy. This is one of government's strategies for attaining economic growth. It will also act as feedback from the grassroots to the government.

To policy makers, this research will act as feedback from the plastics industries that is, it will represent the response the industries have had to EIA as a policy. This will expose areas of weakness in implementation of the policy hence giving them information that will lead to finding solutions to them.

Sensitization is a strength of many Non-Government Organizations (NGO). With the exposure from this study about the benefits and weaknesses of EIA in industrial Sustainable development, will come a need for promoting the benefits and sensitizing to solve the problems which NGO's can then take up. In other words, this study will provide NGO's with specific issues to tackle as regards the environment.

The other industries will have the advantage of learning what those that have carried out EIA benefit from it and the problems those that have not face. This will become an incentive to taking EIA provisions seriously

The development of a national EIA system is a huge task and after years of implementation, it is necessary that its application be evaluated for purposes of rendering it more effective environmental planning. In view of this, it is hoped that the weaknesses and challenges identified in this report shall form the basis for such an evaluation; that is to say, they will contribute relevant information for the evaluation such as the problems faced in carrying out EIA.

The researcher also will gain a lot of knowledge on how to conduct scientific research, using different techniques to collect data, interact with industrial officials and a deeper knowledge of EIA and sustainable development in relation to industries.

1.4 General objective

The general objective of the study is to examine the role of EIA in promoting sustainable industrial development particularly in the plastics industry in Kampala District.

1.4.1 Specific objectives

The specific objectives are;

- i.** To explore the knowledge base that industrial officials have of EIA
- ii.** To determine the problems encountered by industries in carrying out and implementing EIA
- iii.** To find out the benefits of EIA as an environmental conservation standard.
- iv.** To compare the industry that has followed its EIA provisions and the one which has not and the implication of such results for the sustainable development of the industries.

1.5.0 Research Questions

- i** What is the knowledge base industrial officials have on EIA?
- ii** What could be the problems encountered in carrying out and implementing EIA?
- iii** What are the benefits of EIA in promoting environmental conservation?
- iv** What is the difference between industries that have followed EIA provisions and those which have not?

CHAPTER TWO: LITERATURE REVIEW

1 Introduction

In this chapter, the evolution of EIA as a sustainable development mechanism is examined. The major concepts of EIA as regards industrial sustainable development are defined with reference to other authors and professionals. More light is shed on EIA, the problems encountered in implementing it and its benefits to the environment and sustainable development.

2 Definition of key concepts

Environmental Impact Assessment (EIA)

EIA is a procedure that seeks to ensure the acquisition of adequate and early information on likely environmental consequences of development projects and possible alternatives and measures to mitigate them. (Laws of the Republic of Uganda 2000). It is used to inform ultimate decision makers about the consequences of their choice of alternatives and other aspects of the proposed action for example design and mitigation measures. It is also defined as a systematic examination conducted to determine whether or not a project will have any adverse impacts on the environment (United Nations Environment Program 1970).

In general terms, EIA is a process analyzing the positive and negative effects of a proposed project, plan or activity on the environment. The specific purpose of the assessment is to provide decision makers with information allowing them to introduce environmental protection considerations in the decision making process leading to the approval, rejection or modification of the project, plan or activity under examination.

EIA is a study of the effects of a proposed action on the environment. In this context, 'environment' is taken to include all aspects of the natural and human environment. Therefore, depending on the effects of scale of the proposed action, an EIA may include

studies of the weather, flora and fauna, soil erosion, human health, urban migration or employment that is to say, of all physical biological, social, economic and other impacts. Naturally the number of studies will vary from action to action (Tumwesigye 1997).

EIA seeks to compare the various alternatives available for any project or program. Each alternative will have economic costs and benefits, as well as environmental impacts, both adverse and beneficial. Naturally, there must be a trade-off between the pluses and minuses. Adverse impacts may be reduced at a higher project cost. Conversely, economic benefits may be enhanced at some environmental cost. EIA seeks to compare all feasible alternatives and determine which represents an optimum mix of environmental and economic costs and benefits. EIA attempts to weigh environmental effects on a common basis with economic costs and benefits in the overall project.

Finally EIA is a decision making tool. Its ultimate objective is to aid judgmental decision making by giving the decision makers a clear picture of the alternatives which were considered, environmental changes predicted and the trade-offs of advantages and disadvantages of each alternative. The choice ensures that decision makers take into account environmental issues in the early stages of project conception and development. It avails both the developer and the national authorities the opportunity to choose development projects with full knowledge of their impacts, if any on the environment hence mitigation can be planned for (Tumwesigye 1997). It also aims at introducing effectively a systematic consideration of environmental issues in all important decision making stages on specific proposed development activities. It is a process that has influence at many stages of decision making and over a considerable period of time.

Sustainable Development

Sustainable development is the development process which enhances peoples' capacity to create and consume wealth as well as sustain quality of life on a lasting basis (NAPE Lobby 2004). EIA is conceived as a process for resource management and environmental planning that provides for the achievement of the goal of sustainability. The concept of sustainability originated with the 1980 World Conservation Strategy of the International

Union for the Conservation of Nature and Natural Resources (IUCN). The IUCN advanced sustainability as a strategic approach to the integration of conservation and development consistent with the objectives of ecosystem maintenance, preservation of genetic diversity and sustainable utilization of resources. This served as the audience to further promotion of the concept of sustainable development by the World Commission on Environment and Development (WCED), established in 1983 by the United Nations to formulate a global agenda for change. The commission was headed by Gro-Harlem Brundtland, then Prime Minister of Norway and published a final report "Our Common Future" in 1987.

Sustainable development was defined in general by the W.C.E.D. as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The central idea is that development can occur only if and when there is recognition of the need to sustain and expand the environmental resource base. 'Economic' growth in and of itself is insufficient for the purposes of development (Shearman 1990). Sustainability rests on the tenet that technological and social organization can be managed and improved to make a way for a new era of economic growth in which ecological integrity is considered during the development process.

The EIA Process

The need to improve the well being of Ugandans dictates that Uganda adopts a market-oriented economy. This means encouraging local and foreign investment so that the country becomes increasingly industrialized (Ecaat 2004). Given the potential negative environmental consequences associated with the economic development process, NEMA has put in place strategies to minimize adverse environmental consequences and to facilitate participation of all in environmental management among which is EIA. In order to examine the relevance of EIA in sustainable development, its benefits and problems faced in implementing it, it is important to understand how the process is carried out.

The EIA process includes a variety of activities aimed at providing information to decision-makers like industrialists to ensure that environmental considerations are a part of decision making. The scope of these activities varies depending on the nature of the proposed action, its potential for impacts to the environment, public interest and the decision making culture of any given industry or government. Nevertheless, there are some basic elements recognized as generally essential to successful EIA that results in sustainable industrial development. These include; initiation (including identification of issues and generation of alternatives) scoping, assessment, decision- making, post-decision analysis.

Initiation

During initiation, which is generally an internal process occurring early in project formulation, the proponent evaluates the purpose and need for the proposed action and the required level of EIA review and documentation (for example in the US; categorical exclusion, environmental Assessment or Environmental Impact Statement) (US Environmental Protection Agency 1998). Predetermined lists, a screening procedure or a combination of these approaches can be used to determine the potential impacts of a proposed action. In Uganda's case, the developer submits a Project Brief to NEMA and to any other appropriate lead agency. The Project Brief outlines basic information on the proposed activity/project to establish whether or not the activity is likely to have significant impact on the environment. Once a decision is made that EA is necessary for a proposed action, a team is assembled and the formal scoping process begins.

Screening

Based on the contents of the Project Brief, the Authority (NEMA), in consultation with an appropriate lead agency carries out screening to determine adequacy of the project brief, in terms of the extent it addresses the environmental issues or level of EIA required if it has not been done. The premise of the screening phase is that not all development projects may necessarily cause adverse effects on the environment due to differences in scale of operation; nature of the proposed projects may necessarily cause adverse effects

on the environment due to differences in scale of operation, nature of the proposed project and its location. Thus, not all proposed projects requiring EIA shall necessarily undergo the same level of assessment. The objective of the screening phase therefore is to determine the level of EIA required depending on whether the project has or does not have significant impact. The third schedule to Statute No.4 of the 1995 Constitution of the Republic of Uganda lists all categories of projects which require EIA. The developer is informed of the findings and a decision whether further assessment is necessary or not. If the Project Brief adequately addresses environmental concerns, approval can be issued without the need for further assessment.

Scoping

If the Project Brief is not adequate, a full EIS will be required. Once the decision is made that EA is necessary for a proposed action, a team is assembled and the formal scoping process begins. It usually includes consultation within and between governmental departments and public and government participation in one or more scoping meetings. The purpose of scoping is to identify reasonable alternatives and issues and concerns related to the proposed action; provide early identification of areas (including data gathering and research) that will need attention for evaluation, for their significance and facilitate consideration of alternatives and mitigation. Scoping is an on-going process, but it is most effective and useful when began early in the planning process.

Analysis and Assessment

Following the formal part of the scoping process the proponent decides what must be considered in the analysis and assessment part of the EA process and what can be eliminated. These early decisions should be documented.

Based on guidance from the proponent, an interdisciplinary team divides the analytic and writing responsibilities and draft and final EA documentation is prepared. Draft EIAs for proposed actions with potential for significant impacts to the human environment like industrialization should generally be circulated for review and comment to the public,

NGO's and government agencies as appropriate. In the United States, expert agency comments and public scrutiny are essential to implementing NEPA. Following review of comments, the EA team prepares final documentation which the proponent makes available to all interested and affected entities.

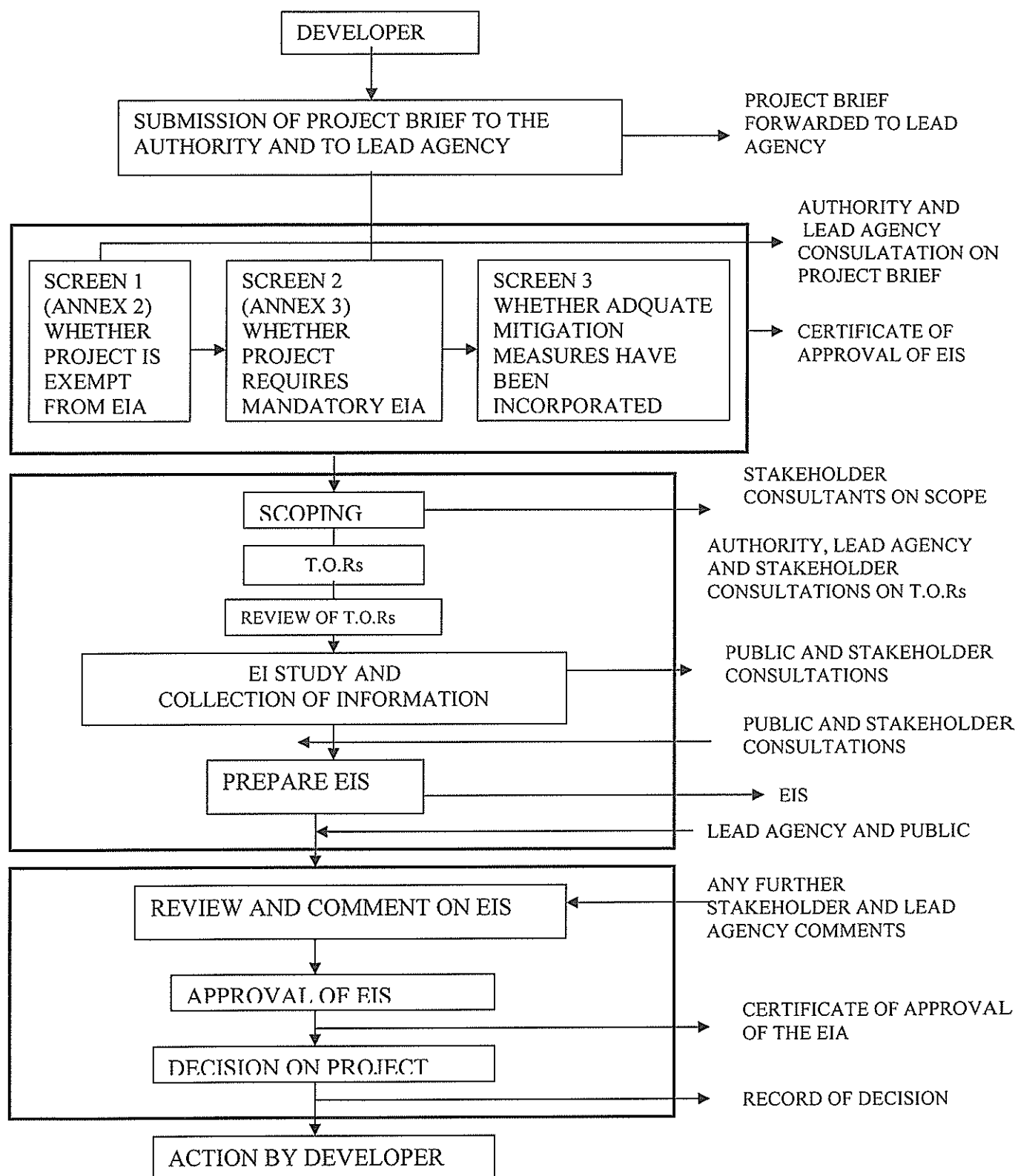
In Uganda, after the assessment, the Environmental Impact Statement (EIS) is submitted to NEMA for review in consultation with other relevant lead agencies and stakeholders. An EIA is written to inform ultimate decision makers about the consequences of their choice of alternatives and other aspects of the propose action for example design and mitigation measures.

Based on the review of the EIS, a final decision is then taken on the environmental aspects of the project. Such a decision is contained in a certificate of Approval of the Environmental Impact Assessment issued by the Authority.

Post Decision Analysis (PDA)

Post-decision analysis is increasingly being recognized as an important element of an EIA (ECE, 1990). Ideally, post- decision analysis encompasses evaluation of scientific and technical issues, procedural and administrative matters during and after implementation of a proposed action. The nature of PDA studies depends on the

Figure 1: The Uganda EIA Process Flow



Source: Ecaat 2004

proposed action, but often includes compliance monitoring studies required by regulatory agencies, baseline monitoring (prior to construction and operation) environmental effects monitoring and mitigation monitoring. The information provided by the PDA studies not only allows for project modification if needed but also results in a better understanding of impact predictions and the effectiveness of mitigation measures which can be applied to future activities of the same type.

2

Benefits of EIA as a Tool for Sustainability of Industries

In more than two decades since the passage of the National Environmental Policy Act (NEPA) by the US congress on Dec 22. 1969, nations worldwide, international lending agencies and multilateral development assistance organizations have initiated similar requirements of Environmental Assessment(EA) for assessing and managing impacts upon the environment of their development activities (Wathern 1988).

Historically, the emphasis on EA has been on project level activities in spite of the fact that EA legislation in some countries for example United States, Netherlands, Canada includes application to policies, plans and programs. However, there's growing recognition that EA should reach beyond projects to broader government initiatives. In the US, there's evidence that the government is applying EA to programmatic decisions. Following this, more focused documents are prepared for specific projects within a program, hence better efficiency.

In Europe, interest in EA for policies, plans and programs is increasing (Therivel et al 1992). Under the auspices of the senior advisors on environmental and water problems of the United Nations Economic Commission for Europe (ECE) and the sponsorship of the United States Environmental Protection Agency, an international task force studied the application of the principles of EA to policies, plans and programs. The task force agreed that principles of EA as applied to projects are appropriate for policies, plans and programs (ECE 1992). These include early initiation of assessment, scoping, independent review, public participation, formal documentation, use in decision-making and post-

decision analysis. With the growing interest in policy-level EA, there's increasing recognition that EA should be used to assess the net contribution of a project, program or policy to sustainable development (Jacob and Sadler 1990).

Few governments or development banks now support, finance or approve a major project without first taking into account its environmental and socio-economic consequences and may have made EIA a formal condition of financing approval. In this way, EIA has played a role in ensuring that environmental aspects are considered during development planning.

A strong case can be made for the use of EIA to push decision makers along the path of sustainability (Attachment I.A). There's a clear indication that environmental advisors working on bilateral and multilateral agencies see the potential for modification of existing E.I.A practices to encompass social impact assessment, participatory appraisal procedures and environmental economics.

It's been suggested that E.I.A procedures be developed for issues for example focusing on a selected key problem with significant social and economic dimensions as well as environmental implications for example the plastics industry can focus on the waste they produce as the key problem. Plastics are widely accepted because they are convenient to use and cheap. However, once they get to the environment, they take very long to decompose. Such an issue-based strategy facilitates an interactive approach building on lessons learned and provides a means to test and demonstrate the utility of a modified approach to E.I.A.

The World Bank summarizes the basic operational principles of sustainability as output and input rules:

Output Guide: Waste emissions from a project should be within the assimilative capacity of the local environment to absorb without unacceptable degradation of its future waste absorptive capacity or other important services.

Input Guide: Harvest rates of renewable resources should be within the regenerative capacity of the natural system that produces them. Depletion rates of non-renewable resources should be equal to the rate at which renewable substitutes are developed by human invention, innovation and investment.

Although not addressed directly, the concept of sustainability has been applied to carrying capacity studies in some twenty EAs prepared for World Bank projects. For most animal species, carrying capacity is defined as the maximum population that can be supported indefinitely in a given habitat without permanently impairing the productivity of the ecosystems upon which that population is dependent (Rees 1988). For human society, regional carrying capacity can be defined as the maximum rate of resource consumption and waste discharge that can be sustained indefinitely in a defined planning region without progressively impairing bio-productivity and ecological integrity.

A mandate for sustainability in environmental planning is found in section 101 of NEPA (Part D). It states that the “ Federal government will foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic and other requirements of present and future generations of Americans. “Furthermore, the regulations that implement NEPA require analyses that address the tenets of sustainability for example the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity and any irreversible or irretrievable commitment of resources. The challenge for the future is therefore in how well we use the tools we have to fulfill our responsibilities as trustees of the environment for succeeding generations. In response to this problem, the National Environmental Management Policy Framework for Uganda, 1994 calls for EIA for all development activities including the plastics industry

Since the operationalisation of the EIA requirement in Uganda, EIA has been able to play its role in influencing some major development decisions. By 2004, over 950 projects had been subjected to EIA out of which no less than 80 were approved for implementation.

Some of these included industries and this provided an opportunity for potential harmful effects to the environment to be mitigated. The EIA regulations also provide a level playing field or platform for industry to contribute to better quality of life without depleting resources or overloading the environment and jeopardizing current and future generations' health and economic well-being (UNEP 1996).

Since becoming a requirement by law in 1996, EIA has been able to make a contribution to decision-making and has in many instances led to avoidance of costly impacts to the environment and natural resources. EIA has therefore been able to assume its role as a planning and decision-making tool and indeed has been able to contribute to important decisions that have been acclaimed as positive decisions towards protection and conservation of environmental resources.

Furthermore, awareness on the EIA requirement has been built to the extent that "EIA" is now a household word among many Ugandans. This increasing awareness about EIA is reflected in the trends in use and application of EIA since 1996 (Ecaat 2004).

EIA has promoted capacity building in various sectors which will help in its implementation and hence better prospects for sustainable development of industry in Uganda. As part of its efforts to build and enhance capacity for EIA among various stakeholders in Uganda, NEMA has and is still carrying out a series of EIA training and awareness activities for categories of stakeholders including the staff of the central government ministries and departments, officials from districts, including political leaders and technical staff responsible for district development planning, staff of selected NGOs and the private sector involved in development work on various kinds of projects.

Through these capacity building programs, NEMA has been able to develop the critical mass of expertise necessary for implementation of the main elements of the EIA process including; EIA review, contribution to the EIA decision-making process, improved public involvement and advocacy for EIA as well as ensuring public involvement and participation. Specifically on lead agencies, NEMA is developing the capacity of lead

agencies and the private sector, to empower them to monitor, regulate and manage the EIA process for projects affecting the segment of the environment they are responsible for. Training in EIA has been carried out for the 21 focus lead agencies to enhance integration of environment in their plans and programs and so by July 2004, lead agencies assisted to develop sectoral EIA guidelines. This ensures and will continue to ensure that the EIA system works effectively to better sustainable development.

EIA is an important aid to environmentally sound planning. Environmental planning supported by EIA, evolved in the 1970s as a preferred approach to the “react and cure” formula which had been applied in many industrialized countries. It aims to optimize a community’s use of materials and energy without exceeding a region’s carrying capacity. Conventional planning for an industrial estate incorporates land use, transportation, waste treatment and infrastructure demands in one master plan. This master plan tries to provide a balanced approach to development, carefully considering the long term implications of all the major elements in the development process.

Where EIA has been done in time, it has been able to save developers from potential financial losses if the same developments had gone ahead without initially carrying out EIA. In addition, where EIA has been done in time, it has helped to improve siting of projects that would otherwise have been poorly located in sensitive areas such as wetlands or industrial projects proposed in residential areas.

3 Problems, Constraints and Challenges Facing EIA

In Europe and elsewhere, the EA process is essentially reactive (that is, applied after a decision is made). Requirements for EA, if any, are found in existing statutes and regulations written to address pollution control, safety and land-use planning (Wathern 1988). This does not give EIA the opportunity to address some issues after the project has commenced.

Burton et al (1983) identify two classes of problems associated with international EA; the action takes place in one or a few adjacent countries but the impacts can be widespread for example acid rain and nuclear power ;and the action takes place in many countries and the impacts may be distributed globally for example global warming and ozone depletion. At a regional level, parts of Kampala may get flooded due to the impact of products or activities of an industry far from the flooded region. Conventional EIA cannot address such problems. Moreover moving to a wider more comprehensive approach encompassing trans-boundary issues will require time, co-operation and agreement within and among governments.

Inadequate Public Participation

While it is acknowledged that the Uganda EIA system has provided room and opportunity for public participation, there remains a challenge of ensuring that the public actually takes full advantage of the opportunity afforded to them to participate and make a contribution through the EIA process. In Netherlands, although public participation allows many interests to be taken into account, reliable information on the relevance of some of these interests has sometimes been lacking (The Netherlands Commission for EIA, 2001).

Quite often the communities most likely to be affected by the project either negatively or positively have not been mobilized enough to champion their cause against the opinions of those who may claim to speak on their behalf, for example environmentalists who usually participate in EIA consultations. In addition, most industries call for public participation in places such as hotels where some directly affected traditional communities do not go. In some instances, projects which are actually supported locally have been portrayed by some opinion groups as not welcome to some communities. This sends a distorted message simply because the actual affected community is either disadvantaged or has not had a good forum to express their case. This makes it difficult to have efficiency in the EIA process for the better result of industrializing sustainably.

Coordination Problems

With the increase in number of practitioners, communication between NEMA and developers has been curtailed; developers are unable to access free advisory services on specific EIA matters regarding their projects. This has also meant that industries sometimes have to pay fees to do EIA for projects whose environmental concerns could readily be addressed by the developer without need for hiring consultancy services. This also means one of the main pillars of the Uganda EIA system calling for EIA to be done by developers has to some extent been undermined as it is now assumed that all EIAs have to be carried out by consultants and at a fee.

Challenges of Post EIA Monitoring and Implementation of Mitigation Measures

There remains a challenge to ensure that industries use the EIA reports as a basis for environmentally sound implementation of their projects, because of the need to determine if actual implementation of projects submitted for EIA fulfils the predictions and recommendations made in the EIAs. During inspections carried out for enforcement, it is not rare to find that some developers or managers of projects for which EIA was done do not even know where the reports are. With that, EIA has no opportunity to influence project implementation. This is further complicated by the fact that in certain instances, the industries take advantage of weak enforcement capacity by different levels of enforcement to omit some of the critical recommendations of EIA, hence inefficiency in the system.

Quality of EIAs Produced

There is concern about the quality of EIA reports produced and submitted for approval. This is mainly arising from the fact that whereas NEMA's primary area of focus was initially in encouraging as many individuals as possible to participate in carrying out EIAs, the increased number has also brought with it inexperienced practitioners whose quality of work leaves a lot to be desired. One of the very noticeable weaknesses in the quality of the EIAs produced is in alternatives analysis, principally arising from the fact

that most projects subjected to EIA are tied to a specific site with no room for exploring other alternative sites (Ecaat 2004).

Recognition of the Value of EIA as a Planning Tool

One of the major areas of weakness in the use and application of EIA still remains the fact that most developers have not yet appreciated the real value of EIA as a planning tool and only do it to fulfill a legal requirement. In the recent past, EIA is also being done by some industries only as a last resort and as a last minute attempt to catch up with deadlines for other interests such as securing loans. As a result, there is still persistent separation of the conventional project planning process, which looks at other financial and technical aspects of a project during planning from the actual conduct of EIA which is only considered when the industry has got some pressure to do it. As a consequence, the extent to which EIA is being applied as part and parcel of the overall project planning process is far from satisfactory. To-date most developers are still reluctant to try to do EIA for their projects, even for very straight forward cases.

Use and Application of EIA after Project has Commenced

Whereas the Uganda EIA process emphasizes that EIA should be done before actual project implementation starts, cases of EIA being done during initial phases of project implementation continue to be registered. As a matter of fact, some EIAs done at this stage seek to use EIA to justify the mistakes that have already been made. This risks associating EIA with such mistakes, thus casting doubt on its values among the public. Under these circumstances, EIA does not have the opportunity to address some of the impacts that would have been avoided if it had been done before commencement of project implementation.

Another major challenge in the use and application of EIA arises from the common misunderstanding of EIA as being a “magic tool” which settles all problems even when there are other options for decision- making. EIA has not been understood as being simply one among many environmental management tools whose contribution to

sustainable development is only complementary to other tools such as laws, policies, standards and regulations. Quite often, there have been development issues for which decisions could have been taken within the framework of other sectoral laws and policies but still end up being referred for EIA knowing very well that EIA would not justify the proposed actions for example there have been infrastructure projects proposed in gazetted green spaces in urban centers and which projects could have been disallowed by the urban authorities straight away by virtue of violating the planning provisions for such areas but these too are referred for EIA knowing very well that EIA cannot justify the setting up of such projects in gazetted green spaces. Quite often, this tends to generate a dislike for EIA among the affected as they perceive it to have been the cause of non-approval of their projects.

EIA practitioners involved in carrying out EIA have not received sufficient attention as far as NEMA's current capacity building efforts are concerned (Ecaat, 2004). This is partly because practitioners were perceived to have capacity to pay for their training needs through courses offered by their institutions such as Makerere University Institute of Environment and Natural Resources (MUIENR). However, the quality of EIA produced by some of the practitioners clearly points to a need for training.

In the implementation of EIA requirement so far, it has also emerged that whereas large-scale project developers are to a great extent complying by carrying out EIA for their project, there still remains a big problem in recognizing the value of EIA for small-scale projects. Developers of small-scale projects do not perceive EIA as adding value to their limited investment capital and often ignore EIA and yet its contribution to their project implementation would equally assist in avoiding obvious environmental problems associated with small-scale projects.

Decisions of environment ministries are overruled by economic bodies such as investment and manufacturers associations at the expense of social and environmental sustainability. In Uganda this is especially common because the government is pursuing a policy to industrialise the country although they have not taken environmental issues

seriously as a contributing factor to long-term economic development. EIA has not yet been accepted as a prerequisite for more sustainable development.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter presents the research methodology in which the research design area and study population along with sample size and selection, data collection methods, research instruments and the procedures used are discussed.

3.2 Research Design

Descriptive and quantitative research designs were employed to carry out the study. A specific number of respondents (60) were selected randomly and interviewed using questionnaires to find out the knowledge base industries have of EIA, problems encountered in implementing it, benefits of EIA and comparison between the industry that carried out EIA and the one that did not.

3.3 Area of Study and Population

The research was carried out Kampala district. It covered plastics industries that were chosen at random. The two sampled plastics industries are NICE, House of plastics which will be referred to as NICE and Plastics Recycling Industries Uganda Limited which will be referred to as PRI for ease. The above industries were chosen because of the advantage of location, near the researcher's residence, hence a lot of time and resources were saved. This also eliminated the problem of language barrier.

NICE, house of plastics is located in Bugoloobi Industrial area bordering a residential area one side. The population around the area comprises majorly working age people, many of whom work within the industries in the area. In the industry, there were literate and semi-literate people and only those who could read, understand and answer the questionnaires were selected.

Plastics Recycling Industry (PRI) Uganda is located at Plot No.M463 in the Nakawa Industrial area of Kampala. It is affiliated to Rwenzori Beverage Company which is the largest mineral water bottling company in Uganda. The population around the area is made up of youth, mostly uneducated who work in the industries around the area as mainly casual laborers. Some of these are the ones who collect plastic wastes as raw materials for the recycling industries.

The area is predominantly composed of Baganda. However, in the industries, the employees are of different tribes from Uganda while some are not from Uganda. PRI is run by some Indian administrators.

The researcher targeted authorities in the plastics industries sampled and these provided the necessary information to enable the researcher come up with this report. They included administrators of the industries, quality controllers, health, environment and safety officers and casual laborers. They were selected because they are the ones who are likely to have information about EIA in the industries.

3.4 Sample Selection and Size

The targeted population comprised of officials in the plastics industries. These include administrators, quality controllers, health, environment and safety officers as well as some casual workers who could read and write. The industries were selected because they are located in Kampala where the problem of plastic waste has become great and because their location is easily accessible to the researcher.

In each industry, thirty respondents comprising administrators, quality controllers, health, environment and safety officers and casual laborers were interviewed. This is because they are likely to know about the EIAs of their industries.

3.5 Data collection Methods

The researcher used both primary and secondary sources of data collection. The primary sources were the respondents who were interviewed using questionnaires while the secondary comprised of the literature from various authors.

3.7 Data collection instruments

3.7.1 Observation

This was the first method of data collection used. It was after noticing that plastic waste is scattered carelessly around the city and its drains, resulting in flooding whenever it rains, that the researcher decided to use the plastic industry as the case study. Heaps and sacks of waste plastic being collected around the city also raised questions about whether the plans of the industries that use it as their raw material included EIA and sustainable development in such a way that there is always a supply of cheaper bottling materials without using much virgin material.

3.7.2 Literature

Past written records from different authors were used by the researcher to gain a better picture and knowledge of EIA in relation to sustainable development in industries. From this the researcher discovered “gaps” that this research aims at closing to ensure the efficiency of EIA as an instrument for sustainable development.

3.7.3 Questionnaires

Questions were designed that required information about the research as their answers. They included structural (open-ended) and choice (closed) questions. The structural questions required the respondents to answer freely in their own words while the choice questions required the respondents to choose from already given alternative answers. The questions were self-administered that is to say the respondents read the questions and answered them without the intervention of the researcher or any other people. Only where

the question was not understood would the researcher explain it. This means that the research had to be limited to only literate group.

The questionnaire addressed issues like whether the industry carried out EIA, what they benefit from implementing it and the challenges they faced in carrying out and implementing it.

3.7.4 Interviews

The researcher also used informal interviews with the workers in the industries to. This provided extra information such as the general attitude the workers have towards EIA and the practices involved in it.

3.8 Research Procedure

The researcher carried a letter of introduction from Kampala International University that helped her access the industries. Data collection methods were designed by the researcher who hand-delivered them to the respondents. The officials were contacted and allowed the researcher to do her work. Questionnaires were collected on the day of the visit to eliminate the risk of losing or forgetting to fill them.

3.9 Data Processing and Analysis

Data collected from the field was processed and clustered according to the research questions it answered. It was interpreted and analyzed quantitatively into percentages and tables and qualitatively into conclusions reached that enabled comparison between industries that have carried out and implemented EIA and those that have not done their EIAs.

CHAPTER FOUR: DATA PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 Introduction

In this chapter, findings and the interpretation of data collected from respondents in NICE, house of plastics, Bugoloobi and Plastics Recycling Industry in Nakawa are presented. Data is presented by use of tables with relevant analysis, in line with the research questions and objectives. The knowledge base industrial officials have of EIA is looked at, problems encountered by industries in carrying out and implementing EIA as well as the benefits from EIA are discussed. Lastly, the industry that carried out EIA is compared with the one that did not and the implications discussed.

4.2 Perspectives on EIA and Sustainable Development in the Plastics Industry

From data collection, it can be seen that the majority of the respondents (administrators, quality controllers, casual laborers and health, environment and safety officers) are aged between 20-30 years and are educated to the level of at least a diploma. They were selected from two industries, NICE, House of Plastics Uganda Limited and Plastics Recycling Industries (PRI) Uganda Limited located in Bugolobi and Nakawa respectively. Because they have at least an average level of education, they could express themselves well in written English and easily understand the questions asked.

Table 1: Table showing the distribution of questionnaires to industrial officials

Industry	No. given out	No. returned
NICE	30	15
PRI	30	24
TOTAL	60	39

In both industries, thirty questionnaires were distributed to the respondents. In NICE, house of plastics fifteen questionnaires were returned which makes 50% of the total

distributed there while in PRI, twenty-four questionnaires were returned making 80% of the total distributed.

Table 2: Showing the knowledge base of EIA in NICE House of Plastics

Respondents interviewed	Number of respondents			
	No knowledge	Very little knowledge	Basic knowledge	Adequate knowledge
Administrators	4	2	0	0
Quality controllers	0	0	2	0
Environment, safety and health officers	0	0	0	1
Casual workers	3	3	0	0
Total	7	5	2	1

Source: Compiled by researcher from field data (2008).

NOTE

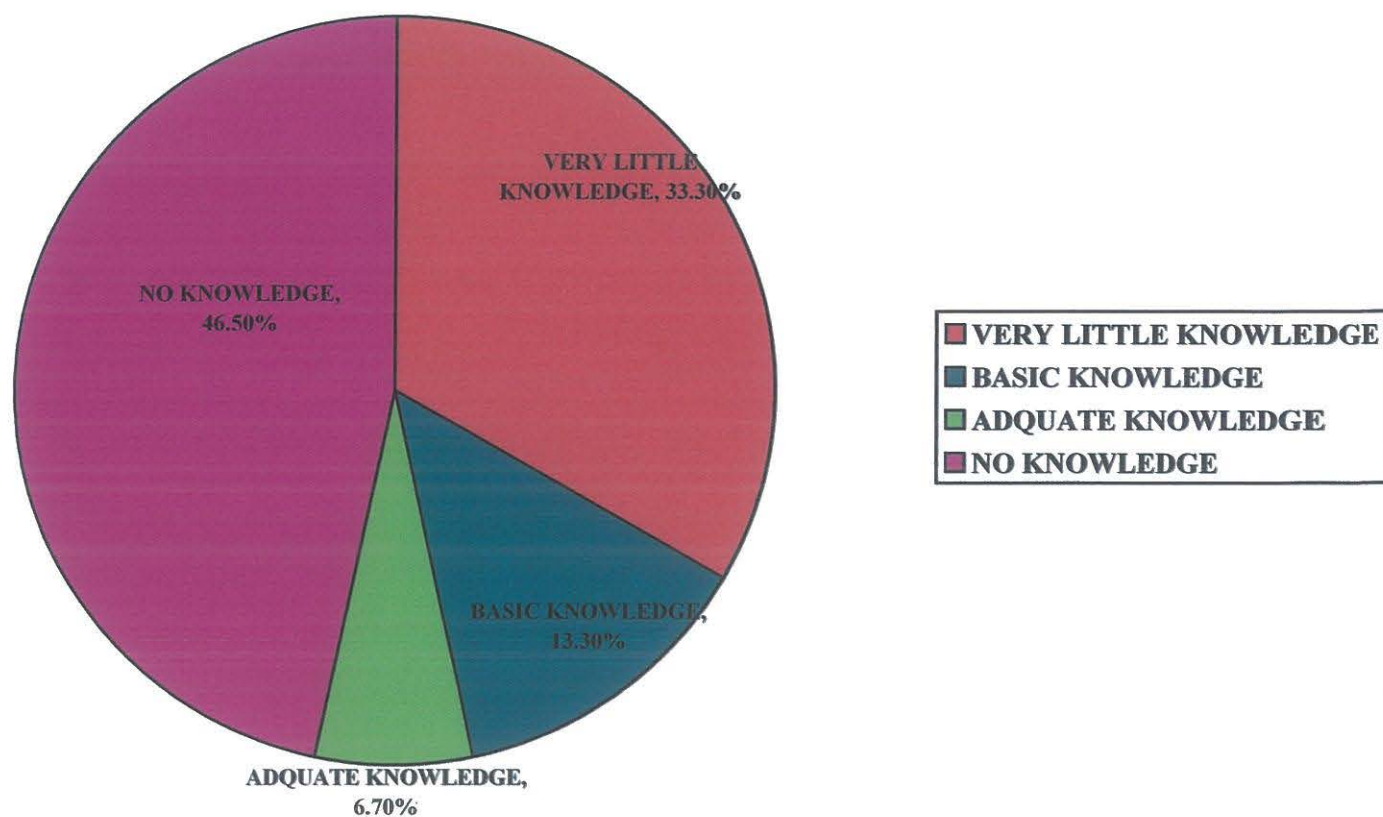
No knowledge refers to the respondents who do not know about EIA

Very little knowledge refers to the respondents who think EIA is about identifying likely effects of proposed projects on the environment

Basic knowledge refers to the respondents who think EIA is about identifying likely effects of proposed projects on the environment and their mitigation measures

Adequate knowledge refers to the respondents who think EIA is about identifying likely effects of proposed projects on the environment, their mitigation measures and monitoring and evaluation as the project runs

Figure 2: Pie Chart Showing Knowledge Base of EIA in NICE, House of Plastics



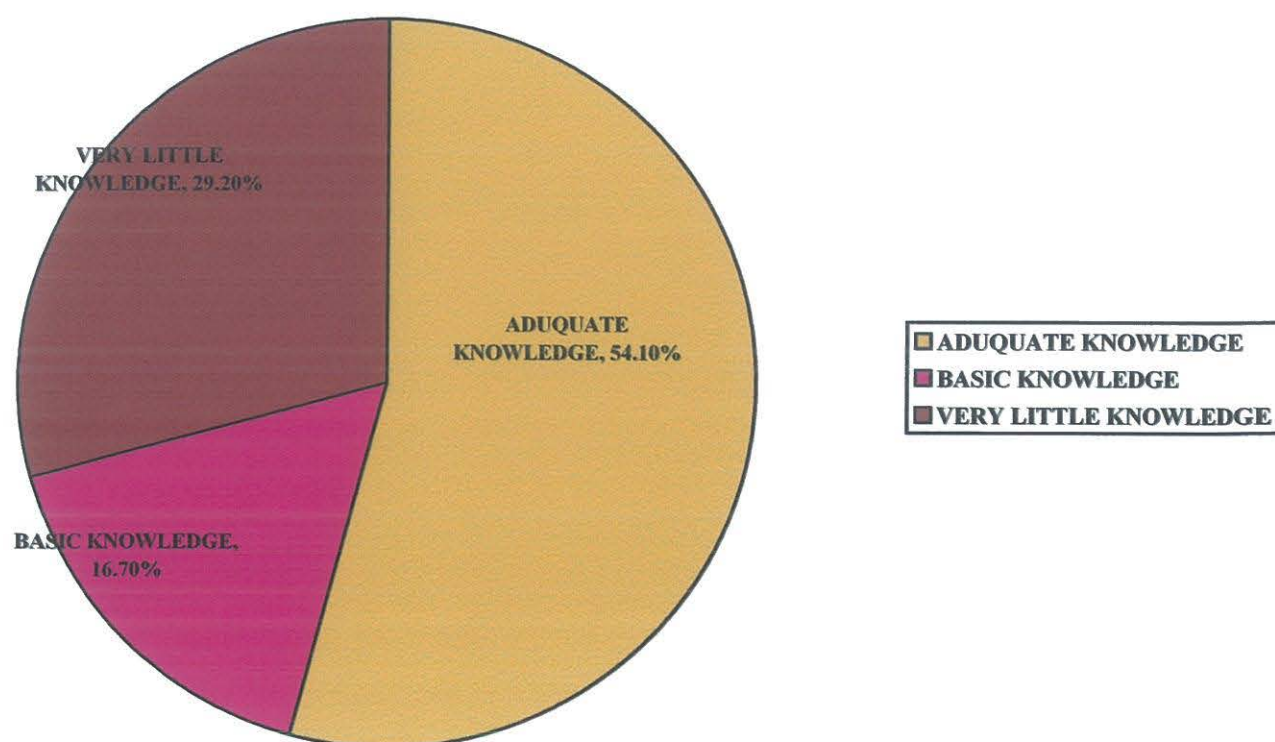
NICE House of Plastics did not carry out EIA according to the respondent. The reasons given include the fact that they do not produce solid waste because it is recycled and that the industry started operating before EIA was required by law. There is a false belief that only industries that produce solid waste require EIA. On the other hand, Plastics Recycling Industries Limited carried out EIA.

Table 3: Table showing Knowledge base EIA in Plastics Recycling Industries Limited

Respondents interviewed	Number of respondents			
	No knowledge	Very little knowledge	Basic knowledge	Adequate knowledge
Administrators	0	1	0	3
Quality Controllers	0	0	0	2
Environment, health and safety officers	0	0	0	2
Casual workers	0	6	4	6
Total	0	7	4	13

Source: Compiled by researcher from field data (2008).

Figure 3: Pie Chart Showing Knowledge Base of EIA in PRI Limited



awareness about dangers of plastics in the environment. It also has strict rules on proper industrial waste disposal, emphasizes proper safety wear for their workers and is active in environmental awareness campaigns.

The EIA Process

NICE did not carry out EIA according to the respondents. The reasons given include the fact that they do not produce solid waste because it is recycled and that the industry started operating before EIA was required by law. There is a false belief that only industries that produce solid wastes require EIA. From PRI, all respondents agreed that the industry had carried out EIA.

Benefits of EIA as an Environmental Conservation Standard

Although NICE did not carry out EIA while PRI did, respondents from NICE were able to mention some known benefits of EIA in promoting sustainable development.

Table 4: Benefits of carrying out and implementing EIA to the industry

INDUSTRY	PRI	NICE
BENEFITS	<ul style="list-style-type: none"> • Promotion of sustainable community development hence good public image • Market is better because the community supports the industry • Linkages with NEMA enable better environmental management hence saving resources for development of other sectors • Environmental clean-up costs are saved. • Better utilization of materials by recycling. 	<ul style="list-style-type: none"> • Prevention of accidents hence less losses in compensation. • Reduced pollution costs • Environmentally conscious employees.

Source: Compiled by researcher from field data (2008).

Table 5: Benefits of Carrying out and Implementing EIA to employees.

INDUSTRY	PRI	NICE
BENEFITS	<ul style="list-style-type: none">• Awareness about EIA created• The industry takes better care for their safety and health• Protection from pollution• They are more environmentally conscious even out of the industry.• EIA promotes environmental protection and conservation• Recycling rids the environment of harmful wastes.	<ul style="list-style-type: none">• Awareness about EIA created• People are better educated about their environment hence better management.• Their participation helps in capacity building for other programs.• Better waste management practices• Environmental protection

Source: Compiled by researcher from field data (2008).

It was clear that PRI benefited from carrying out and implementing EIA. PRI formed linkages with NEMA, which enables better environmental management hence saving even other resources on which industries depend for raw materials. The industry has a better market with the community supporting their activities. This is because some of them are employed in the industry, some earn a living by providing services to employees of the industry and the two co-exist harmoniously hence promoting sustainable development. In addition, environmental clean-up costs are saved whenever there are good environmental management practices and materials are better utilized where there is recycling, therefore both the economy and the environment benefit leading to sustainable development. Because of the sustainable community development the industry is promoting, it has also gained a good public image, which eases marketing. With such conditions, the industry can develop sustainably.

PRI prevents/minimizes accidents by having a policy on safety and health of their employees while NICE does not have an EIA report where such provisions are made. Therefore in PRI less is spent on compensation for health reasons and the workers' full potential can be exploited for steady production. The employees are also environmentally conscious because of EIA. The industry has reduced pollution costs and got a better public image because of environmentally

friendly production practices hence it can be said that the environment is considered in this industry's growth.

To the employees, the industry has created awareness about EIA among them, which has helped in raising environmental consciousness and capacity building for any other programs. The human resource, also an important aspect of sustainable development has been empowered. Better health, safety measures and protection from pollution are provided for the employees as well as better education about the environment hence better management.

The environment around the industry is protected and conserved because of EIA. This is because they minimize pollution and use proper waste management practices. Also recycling rids the environment of waste. When environmental conservation is taken into consideration in the industrialization processes, sustainability in development is then likely to be attained.

Problems, constraints and challenges in carrying out and implementing EIA

PRI respondents had not read or seen copies of the industry's EIA. This indicates that the industry faces a problem of inadequate information that is to say, the employees do not know about the environmental policies the industry is supposed to follow.

PRI had very good coordination with NEMA during the EIA exercise and this means they did not experience any problems working with NEMA to carry out EIA. They were given the necessary support such as availing their experts as participants in the discussions. NICE did not carry out EIA at all implying that they have no coordination at all with NEMA. The industry has existed for over a decade but still remains without an EIA done. It is not clear why some industries are allowed to run without such requirements.

All (100%) respondents from PRI thought the industries could manage to implement the mitigation measures provided for in the EIA. The reason is because they have facilities and are assisted by NEMA to uphold some of the provisions. Respondents also believe the company has environmentally conscious people running it who make it possible to implement the mitigation

measures. However, respondents from NICE, who thought the industry could manage to carry out EIA, did not give reasons to explain why the industries could manage to carry out EIA. Others thought the environmental protection policy the industry has was reason enough to believe they could manage to implement the mitigation measures provided for in the EIAs.

EIA for PRI was done before project implementation according to the respondents. However, the respondents also do not recall when the industry began to use and apply the EIA provisions.

For PRI, which managed to carry out EIA, all (100%) respondents could not tell whether the practitioners who carried out their EIAs were qualified and registered by NEMA. This makes them easy targets for inexperienced practitioners who may not even be qualified. Such practitioners make the EIA process fail to meet its target of promoting sustainable development since many issues may be left unmitigated.

Other problems faced in carrying out and implementing EIA mentioned by respondents in the industries include; the fact that a lot of time is taken to conduct the EIA study especially when public participation is required since they take long to decide on the way forward. The process is also expensive to carryout.

Comparison between NICE and PRI

NICE did not carry out EIA while PRI did and below is a Table to compare them

Table 6: The comparison between NICE and PRI

NICE	PRI
<ul style="list-style-type: none"> • Employees are not familiar with EIA. • There is a belief that EIA was not necessary because the industry does not produce solid waste. It is recycled. • There is no participation in environmental activities. • Employees are not environmentally conscious • Exposure of employees to pollution • Employees may not have any chance to get skills (capacity building) • Transparency lacks in their operations because there is likelihood of exposure for not carrying out EIA • Poor public image because of lacking environmental considerations. • Environmentally degrading production hence unsustainable development. 	<ul style="list-style-type: none"> • Employees are familiar with EIA. • There is agreement that EIA was necessary. • There is participation in environmental activities. • Environmentally conscious employees • There are safety and health considerations for employees. • EIA helps in capacity building for employees to handle other programs. • There is transparency because requirements for operation are fulfilled. • Good public image because of environmental management. • Environmentally friendly production hence sustainable development.

Source: Compiled by researcher from field data (2008).

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter covers the summary of the findings and conclusions drawn from the findings. Recommendations are also given to improve EIA in the plastics industry in Kampala.

Summary of findings

The researcher found out that in the industry that has carried out EIA there is general awareness about EIA and sustainable development unlike in the one that has not carried it out. Industries that have carried out EIA also have policies as well as efforts to promote sustainable development. Such efforts include recycling, participating in EIA and creating public awareness about plastic waste management.

In, NICE where 87% of respondents say EIA was not carried out and the rest do not know (from questionnaires) reasons such as the fact that they do not produce solid waste were given. Their solid waste is recycled. The industry also opened before EIA was a requirement for operating an industry. They therefore do not think EIA was necessary. PRI which carried out EIA acknowledges that it was necessary because they gained especially as regards environmental management and cutting pollution costs.

Benefits of carrying out and implementing EIA include gaining a good public image through managing the environment properly, saving on environmental clean-up costs, better utilization of materials by recycling, prevention of exposure to pollution hence saving on healthcare costs, and it enables companies to have environmentally conscious employees. All the above contribute in different ways to sustainable development.

Problems facing EIA include inadequate information, that is to say, employees do not know what provisions they should implement because they are not exposed to the EIA reports. In NICE,

only 6.7% had adequate knowledge about EIA while in PRI, the percentage is 54.1% (*refer to Figures 2 and 3*). Public participation is also poor (according to the questionnaires, only 25-50% of the expected people turned up for public participation in PRI's EIA process) therefore many views are left out of the EIAs and coordination between NEMA, industries and practitioners is usually poor, therefore some industries cease to take EIA seriously and others may not carry it out at all. Some industries have not put in place strategies to help them to implement their EIAs effectively, therefore they fail, and inexperienced, unqualified and unregistered practitioners have become a problem because they produce EIAs that do not cover the necessary environmental issues around the industries.

Conclusions

From the above findings, it can be concluded that some industrial officials indeed have a good knowledge base of EIA, some have none at all and others have little knowledge about it. In NICE, 46.5% have no knowledge about EIA while in PRI at least all have some knowledge of EIA (*refer to Figures 2 and 3*). However, in industries where EIA has been carried out, there is wider knowledge about it than in industries that have not carried out EIA.

The problems encountered in carrying out and implementing EIA include inadequate information. The employees do not know what provisions they should implement because they are not exposed to the EIA reports. Public participation is not sufficient therefore, many views are left out of the EIAs and coordination between NEMA, industries and practitioners is usually poor. The result of this is that some industries cease to take EIA seriously and others may not carry it out at all. Some industries have not put in place strategies to help them to implement their EIAs effectively, so they fail. In addition, inexperienced, unqualified and unregistered practitioners have become a problem because they produce EIAs that do not cover the relevant environmental issues around the industries. This brings about the problem of EIA being inefficient.

The benefits of carrying out and implementing EIA include gaining a good public image through managing the environment properly, saving on environmental clean-up costs, better utilization of

materials by recycling, prevention of exposure to pollution hence saving on healthcare costs as well as protecting biodiversity from pollutants. EIA enables companies to have environmentally conscious employees. All the benefits contribute in different ways to sustainable development.

The industries that have carried out EIA are much more environmentally conscious than those that have not and are therefore more likely to attain the goal of sustainable development, which is meeting the needs of the present without compromising the ability of future generations to meet their needs. Sustainable development requires conservation, which EIA is helping to achieve by creating environmentally conscious industries. On the other hand, the industries that have not carried out EIA are not careful to control pollution and protect the environment; hence they operate against the concept of sustainable development.

4 Recommendations

There is need to sensitize the public about EIA and its contribution to sustainable development in order to solve the problem of inadequate participation. The public can also raise their dissatisfaction with industries that do not carry out EIA. They can then understand that industries need to consider them during their planning, that is, to operate harmoniously with them.

Workers in industries should also be sensitized about EIA in relation to sustainable development. They should be able to realize that their jobs also depend on whether or not the industries can sustain production and fulfill all the requirements of the law.

There is need for the government to strengthen its will to environmental management as a safe way to attain development sustainably. Usually, when the political will to implement policies such as EIA is strong, they are adhered to. Better understanding of the benefits of EIA should lead to better acceptance of environmental assessment as a prerequisite for more sustainable development.

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FACULTY OF SOCIAL SCIENCES

March 5, 2008

To.....

.....

.....

This is to introduce to you MAHORO GLORIA
who is a bonafide student of Kampala International University. He/she is
working on a research project for a dissertation, which is a partial requirement
for the award of a degree. I here by request you, in the name of the University,
to accord him/her all the necessary assistance he/she may require for this
work..

I have the pleasure of thanking you in advance for your cooperation!

Yours sincerely,



Ms. Sidonia Angom
Associate Dean

APPENDIX II: QUESTIONNAIRE FOR INDUSTRIAL OFFICIALS

Dear respondent,

I am a student of Kampala International University carrying out an academic research on the topic "The role of Environmental Impact Assessment in promoting sustainable industrial development." I selected you on random basis to participate in the study and kindly request you to answer the questions given appropriately by ticking the most correct option or providing explanations where required. To ensure confidentiality, no names are required.

Your participation will be of great importance.

A) BACKGROUND INFORMATION

1. Age

20-30 ☐

30-40 ☐

40-50 ☐

50 + ☐

2. Sex

Male ☐

Female ☐

3. Level of education of respondent

A' Level Certificate ☐

Graduate ☐

Diploma ☐

Post Graduate ☐

4. Occupation

5. Name of industry

.....

6. Location of industry

.....

7. What does your industry produce?

.....

8. How many years of experience do you have in the plastics industry in Uganda?

Less than a year ☐

5-10years ☐

1-5years ☐

10years ☐

B) EIA AND SUSTAINABLE DEVELOPMENT IN THE PLASTICS INDUSTRY

1. Are you familiar with the concept of EIA?

Yes ☐

No ☐

2. If yes, give a brief description of your understanding of EIA. (if not, leave blank)

.....

.....

3. Are you familiar with the concept of sustainable development?

Yes ☐

No ☐

4. If yes, give a brief description of it. (if not, leave blank)

.....

.....

5. Does your industry have a policy on sustainable development?

.....

6. Has there been effort to promote ideas of sustainable development? (If so, how?).

.....

.....

C) THE EIA PROCESS

1. Has this industry carried out EIA?

Yes ☐

No ☐

If yes;

2. Did you participate?

Yes ☐

No ☐

3. What did you do?

.....
.....

4. Do you think it was necessary?

Yes ☐

No ☐

5. If not why? (Or why not?)Cancel what does not apply to you.

.....;

5. Why wasn't EIA done? (Give as many reasons as possible).....

.....
.....
.....
.....

D) BENEFITS

1. How have the following benefited from carrying out EIA?

a) The industry

.....
.....
.....
.....

b) The employees

.....
.....

.....
.....
c) The environment
.....
.....
.....
.....

2. How have the following benefited from implementing EIA provisions?

a) The industry
.....
.....
.....

b) The employees
.....
.....
.....

c) The environment
.....
.....
.....

PROBLEMS, CONSTRAINTS AND CHALLENGES IN CARRYING OUT AND IMPLEMENTING EIA

Did this industry's EIA require community participation?

Yes ☐

No ☐

Did the community participate or not? (Why or why not?)Cancel what does not apply to you.
.....

How was the coordination between the industries, practitioners and NEMA in carrying out the EIA process?

Good ☐

Fair ☐

Very good ☐

Poor ☐

Do you think the industry can manage to implement the mitigation measures provided for in the EIA?

Yes ☐

No ☐

Why or why not? Cancel what is not applicable to you

.....

Have you seen/read a copy of the industry's EIA report?

Yes ☐

No ☐

At what stage of project implementation was EIA for this industry carried out?

Before ☐

Same time ☐

after ☐

don't recall ☐

When did the industry begin to use and apply the EIA provisions?

Don't recall ☐

before project implementation ☐

At project implementation ☐

after project implementation ☐

Can you prove in any way that the Practitioner who carried out this company's EIA was qualified and registered by NEMA?

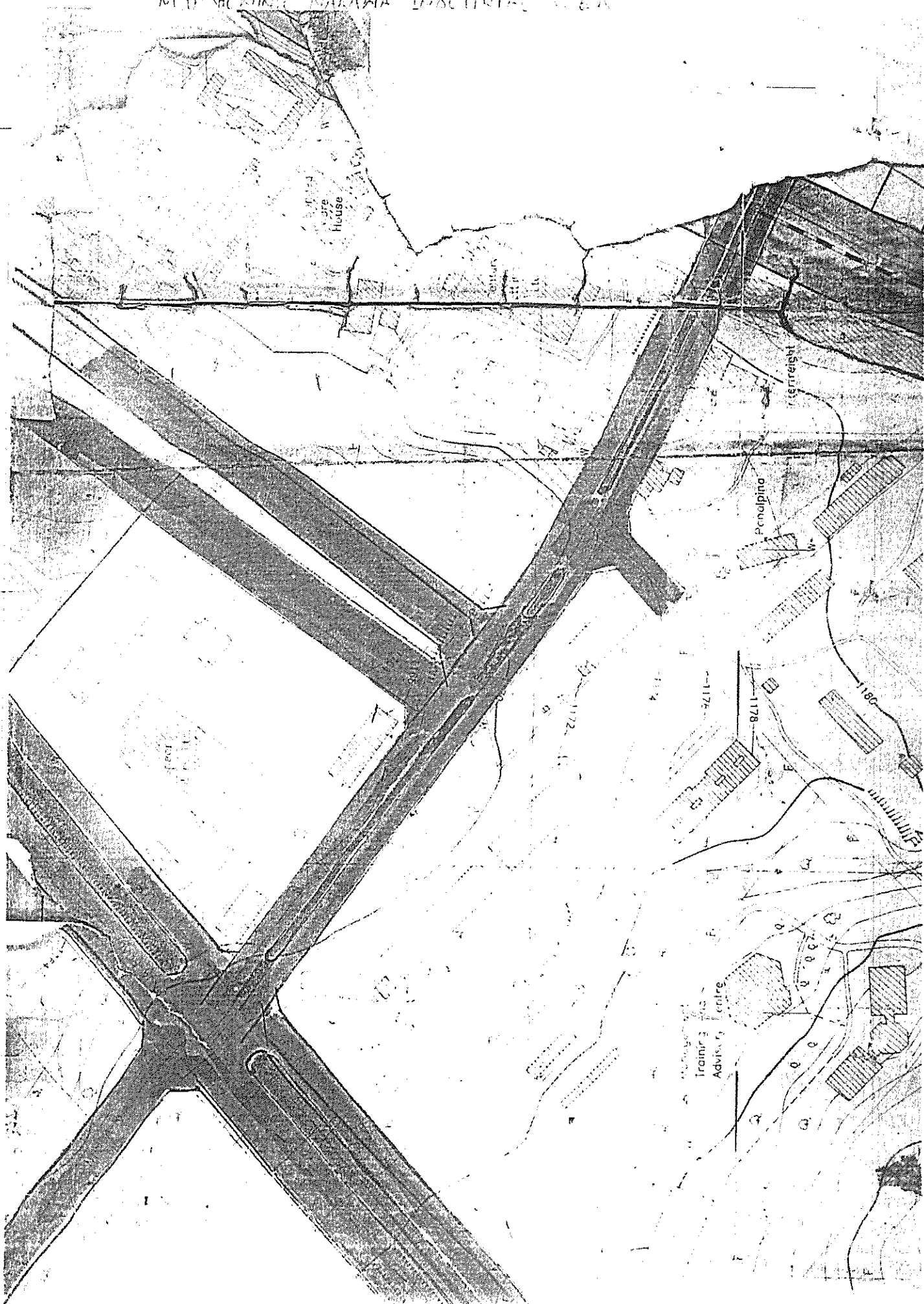
.....

9). Would you consider this industry too small to need on EIA?

Yes ☐

No ☐

MAP SHOWING NARANA INDUSTRIAL AREA



MAP SHOWING LOCATION OF PLASTICS

