

**THE ROLE AND THE PLACE
OF
SOCIAL IMPACT ASSESSMENT
IN THE
PROJECT LIFE CYCLE**

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Mini-dissertation submitted in partial fulfilment of the requirements for the degree Magister Environmental Management at the Potchefstroomse Universiteit vir Christelike Hoër Onderwys.

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Samevatting

Die rol en die plek van Sosiale Impakstudie(s) in die projeksiklus.

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Sosiale Impakstudies is 'n relatiewe nuwe studieveld in Suid-Afrika en in die buiteland. Dit is 'n dinamiese rigting wat voortdurend groei en verander. Die jongste literatuur dui daarop dat Sosiale Impakstudies in al die fases van die projeksiklus gedoen moet word. Die aanname wat in die studie gemaak word, is dat dit nie in die praktyk plaasvind nie. Hierdie studie ondersoek die huidige praktyke in Suid-Afrika. Ses gevallestudies word ontleed. Die resultate hiervan bevestig die aanname. Die gevallestudies word ook gemeet aan die beginsels van Sosiale Impakstudies, Geïntegreerde Omgewingsbestuur en Maatskaplike Ontwikkeling. Die hoofaanbeveling is dat Sosiale Impakstudies in al die fases van die projeksiklus gedoen moet word en so vroeg as moontlik in die beplanningsfase moet begin. Dit word aanbeveel dat Sosiale Impakstudie praktisyns blootgestel moet word aan die Maatskaplike Ontwikkelingsbenadering aangesien die twee filosofieë mekaar kan aanvul. Sosiale Impakstudies is deel van die Geïntegreerde Omgewingsbestuurgereedskap en behoort nie as 'n eenmalige assessering gesien te word nie, maar eerder as 'n proses. Slegs wanneer Sosiale Impakstudies as proses gesien word kan dit 'n noemenswaardige bydrae tot volhoubare ontwikkeling lewer.

Sleutelwoorde: Sosiale Impakstudie, Projeksiklus, Geïntegreerde Omgewingsbestuur, Maatskaplike Ontwikkeling

Abstract

The role and the place of Social Impact Assessment in the Project Life Cycle.

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Social Impact Assessment is a relatively new field of study in South Africa and abroad. It is dynamic and constantly changes as it develops. Current literature indicates that there is a need for SIA to be done through all phases of the project life cycle. The assumption made in this study is that this is not happening in practice. This study investigated the current practices in South Africa. Six case studies were analysed. The results confirmed the assumptions. The case studies were measured against the principles of Social Impact Assessment, Integrated Environmental Management and Social Development. The main recommendations are that Social Impact Assessments should be conducted throughout the Project Life Cycle and be initiated as early in the planning phase as possible. It is recommended that Social Impact Practitioners should be exposed to the Social Development approach as these two philosophies could enhance each other. Social Impact Assessment forms part of the Integrated Environmental Management tools, and shouldn't be treated as a snapshot assessment, but as a process. Only when treated as a process, it can truly contribute to sustainable development.

Keywords: Social Impact Assessment, Project Life Cycle, Integrated Environmental Management, Social Development

Table of Contents

Acknowledgements	ii
Samevatting	iii
Die rol en die plek van Sosiale Impak Studie in die projek siklus	iii
Abstract	iv
The role and the place of Social Impact Assessment in the Project Life Cycle	iv
Table of Contents	v
Chapter 1	1
General Introduction	1
1. Background	1
2. Motivation for the choice of the subject	3
3. Problem Formulation	5
4. Aim and Objectives of Study	7
4. 1. Aim	7
4.2. Objectives	8
5. Research Questions	8
6. Research Methodology	9
6.1. Research Approach	9
6.2. Research Design	10
6.3. Research Procedure and Strategy	10
7. Key Concepts in study	11
Social Impact Assessment	11
Project Life Cycle	12
Environmental Impact Assessment	12
Integrated Environmental Management	12
Social Development	12
8. Limitations of Study	13
9. Division of Research Report	14
Chapter 2	15
Theoretical Framework for Social Impact Assessment	15
1. Introduction	15
2. The Project Life Cycle	15

3. Social Impact Assessment.....	17
3.1. Definitions	17
3.2. Principles of Social Impact Assessment.....	19
3.3. Social Impact Assessment Variables	23
3.4. The Social Impact Assessment Process	27
4. Social Impact Assessment and the Project Life Cycle	29
5. Integrated Environmental Management.....	32
6. Social Development.....	34
7. Conclusions	36
Chapter 3.....	37
Case Studies contextualised within the theoretical framework of Social Impact Assessment	37
1. Introduction.....	37
2. Case studies	38
2.1. Pelindaba Pebble Bed Modular Nuclear Reactor Related Fuel Manufacturing Plant and Associated Transport of Uranium Oxide and Nuclear Fuel.....	38
2.2. Koeberg Pebble Bed Modular Nuclear Reactor.....	39
2.3. Aluminium Pechiney Smelter within the Coega Industrial Zone	39
2.4. Gautrain Rapid Rail Link	39
2.5. Yatela Mining Operation.....	40
2.6. Upgrading of the Olushandja Dam	40
3. Social Impact Assessment and the phases of the Project Life Cycle.....	41
4. Application of Social Impact Assessment principles	43
5. Application of the principles of Integrated Environmental Management.....	46
6. Social Development and the Case Studies.....	48
7. Conclusions	51
Chapter 4	52
Findings, Conclusions and Recommendations.....	52
1. Introduction	52
2. Findings and Conclusions.....	53
3. Recommendations	58
Bibliography	59

Chapter 1

General Introduction

1. Background

After the Earth Summit in Rio de Janeiro, Brazil in 1992, environmental awareness drastically increased worldwide; South Africa was no exception - the new constitution included environmental rights for the first time.

The Constitution of the Republic of South Africa (Act No 108 of 1996) states:

“Every one has the right -

- a) to an environment that is not harmful to their health and well-being; and*
- b) to have the environment protected... through reasonable legislative and other measures that-*

- i. Prevent pollution*
- ii. Promote conservation, and*
- iii. Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”*

The environment was often seen as only the biophysical environment with nature conservation as the main activity. This has now changed with the new constitution (Act No 108 of 1996) including the social environment in its definition of the environment. This focus acknowledges that people are an integral part of the environment. The National Environmental Management Act (Act No 107 of 1998) states this very clearly when it spells out basic environmental principles:

Social Impact Assessments are not unique to Environmental Impact Assessments but can be done for any plan, project or policy that could have an impact on the human environment. Within a developmental framework, SIA could be linked with Social Development, an approach to social welfare that has been officially adopted by South Africa to reconstruct its social welfare system. Social Development is characterized by an emphasis on linking social and economic interventions within the wider framework of a dynamic developmental process that promotes social progress and human welfare for all (Midgley, 1998: 90-91).

There are certain constraints that one has to bear in mind when doing SIA's in developing countries. SIA evolved in developed countries. The first International Social Impact Assessment Conference was held in Vancouver, Canada, in 1982 (Burdge, 1998:7). Even in developed countries it is still a relatively young and growing field. Experience has shown that processes that succeed in developed countries will not necessarily succeed in developing countries. Developing countries offer unique situations and challenges that are often not understood in developed countries. South Africa cannot apply the SIA processes that evolved in developed countries directly on the local situation.

2. Motivation for the choice of the subject

The motivation for the study is embedded, firstly in the fact that social scientists have a role to play in the development of the SIA process, and, secondly, that the SIA should be done through all the phases of the project lifecycle.

In determining the role that social scientists should play in the development of a SIA process, it needs to be taken into consideration that Social Impact Assessment is a relatively new field, both here and abroad. The only South African literature covering this topic is dissertations by Masters Degree students in the environmental field. Only thirteen current and completed research projects can be found on the Nexus database from the National Research Foundation of which all were case studies. The majority of these were not done by social scientists. All other literature concerning Social Impact Assessment is from abroad, mostly from Europe and America. It is the

opinion of the researcher that there is a role for social scientists in the development of a SIA process unique to South Africa. The role and impact of humans as part of the environment has been underestimated.

Current literature indicates that there is a need for SIA to be done through all phases of the project cycle, but this is not what is happening in practice. SIA activities are by nature anticipatory and it should be supported by empirical evidence, but this is not happening. Precious little previous knowledge is available and very little impact monitoring is done (Freudenburg and Keating, 1985:584).

Rees in Geisler (1993:332) states that unless SIA is replicated in an experimental form over time, it will be conducted on a reactive, project-by-project, short-term basis of limited value to sustainable development. SIA should be incorporated fully in the project cycle.

Although there is a legal requirement to conduct SIA's, this is not happening in practice. The need for a SIA is recognised but often nothing is done. A reason for this might be a lack of expertise in this field. Most environmental practitioners are from a natural science background who do not know how to approach a SIA; and either do it incorrectly or forego it completely.

Environmental practitioners often confuse Social Impact Assessment with the Public Participation Process. Many consultants seem to think if they've had a few meetings and consulted the public, they've done a Social Impact Assessment. A SIA is often done as part of a specific project and thus cannot address the cumulative impacts resulting from multiple projects and is thus frequently seen as a single event, not a process (Burdge & Vanclay, 1998:269).

In summary, the motivation for this study is to clarify the SIA process for non-social scientists working in the environmental field and to be able to make feasible recommendations regarding how the SIA process fits into every facet of the project life cycle. The relationship between Social Impact Assessment, Integrated

* Personal communication from Mr. W.D.M. Fourie, Director Environmental Impact Assessment, Department of Environmental Affairs and Tourism, South Africa, 2003.

Environmental Management and Social Development is examined. As a social scientist working in the environmental field this researcher became aware of the need for social scientists to become involved in this field and of the contribution they can make. Social scientists study humans and their behaviour in different contexts. If one bears in mind that Environmental Management is not only about managing the environment, but also about managing human beings and their impact on the environment, it becomes clear that there is a role for social science in the environmental management field.

3. Problem Formulation

Although the National Environmental Management Act (Act No 107 of 1998) and other legislation give a clear mandate for Social Impact Assessment (SIA), there are no clear guidelines for SIA's nor is it legally enforced. The Environmental Impact Assessment regulations (Department of Environmental Affairs and Tourism, 1998) mention social impact, but give no clear framework for SIA's. The current practice in South Africa is that Social Impact Assessments are done as one of a number of specialist studies included in an Environmental Impact Assessment and are limited to the Scoping and Impact Assessment phases (Greyling, De Waal & Reynolds, 2002: 1; 3). It is seen as a discrete statement of impact, not as a process. There are no statutory requirements to seriously consider the results of SIA's and unless SIA's are given a more specific framework, it would be difficult to legally enforce it. This researcher is of the opinion that SIA's will not be taken seriously unless industries and policy makers are forced to do so. One of the reasons for ignorance about the nature of SIA's is the lack of guidelines from the State. Specific legislation on SIA's would create an enabling environment for them to be done. This lack of legislation contributes to the fact that the role and place of SIA in the project life cycle is not yet clear.

Traditionally Social Impact Assessment has a pre-project or ex ante focus in order to supply information before decisions are made. Although this is valuable, numerous impacts exist for which no pre-project information is available. SIA's needs to adapt to the problems of long-term projects (Geisler, 1993:328). Few studies show whether

the predicted social impacts actually occurred (Burdge, 2002:8). Not enough previous research is available and very little impact monitoring is done (Freudenburg and Keating, 1985:584). Social Impact Assessments are usually not done during all the phases of the project life cycle. It is clear from the literature that there is a need for post-project Social Impact Assessments. Both hindsight and foresight are imperative if SIA's are to fulfil their mission. There are several reasons why some social impacts will escape detection in ex-ante assessments. Ecosystems are dynamic and erratic. Ex ante SIA's is extremely vulnerable when it comes to cumulative effects. Most SIA's have limited time frames and assume that current societal conditions and trends will continue unchanged.

Environmental projects, plans and policies go through several phases, starting with initial planning, implementation and construction through to operation and maintenance, ending with decommissioning (Burke, 1990:24-26).

There are social impacts in each of these stages. Social impacts can vary in desirability, ranging from the favourable to the adverse. They also vary in scale. Some social impacts can be short term, while others can last a lifetime; and some communities "return to normal" quickly once a source of disruption is removed, others do not. Social impacts can vary in intensity and severity, a dimension that is defined differently in varied project settings (Interorganizational Committee, 1994:111).

Very often the focus is only on the first of these stages, namely the initial planning stage, where an Environmental Impact Assessment is done that often includes a Social Impact Assessment as a specialist study. The reason for this is that Environmental Impact Assessments are legally enforced and the tendency in South Africa is to view the SIA as part of the EIA. Environmental Impact Assessments are just one of the tools used in Environmental Management. Other tools, like Environmental Management Plans, Environmental Risk Assessments, and Site Assessments are used in different phases of the project life cycle. SIA is not traditionally used within the above-mentioned processes. The result is that important social impacts that occur later in the process are often not taken into consideration.

SIA's are mostly prediction and given the complex nature of social phenomena, a complete and accurate SIA is a nearly impossible task (Finsterbusch, 1995:230). The

nature of social phenomena prevents precise behavioural predictions because social units are not fixed structures and social phenomena involve adaptive interactions as social systems adapt to changing conditions.

This researcher is of the opinion that Social Impact Assessments should be a continuous process throughout the project lifecycle. Given the practical and financial constraints, SIA should at least be done in the planning and decommissioning phases. Unless the assessment is repeated in the decommissioning phase, there would be no record of whether the predicted impacts occurred and whether impacts that were not predicted occurred. SIA's are used to predict possible impacts. The researcher sees this as limiting the value of SIA. It should be used to determine impacts that have occurred as well. A pre- and post- project focus would add scientific value to the SIA process.

Within the context of a continuous process, this research study intends to determine the role and place of Social Impact Assessment in the project life cycle with a particular focus on the planning and decommissioning phases. The similarities between Social Impact Assessment, Integrated Environmental Management and Social Development are also explored.

4. Aim and Objectives of Study

The aim and objectives of the study are as follows:

4. 1. Aim

To establish the role and place of Social Impact Assessment in the different phases of the project cycle of development, with a focus on the planning and decommissioning phases.

4.2. Objectives

The objectives of the study include the following:

- To investigate current trends in the practice of Social Impact Assessments.
- To theoretically contextualise phases in a project life cycle.
- To analyse the Social Impact Assessment process within a project life cycle.
- To determine the role of Social Impact Assessment in each phase of the project life cycle and in particular the planning and decommissioning phase.
- To make recommendations on how Social Impact Assessment can be integrated within the phases of the project life cycle.
- To explore the similarities between Social Impact Assessment, Integrated Environmental Management and Social Development.

5. Research Questions

The following research questions guided the research process of this study:

- What are the current trends in conducting Social Impact Assessments?
- Why is Social Impact Assessment not conducted in all the phases of the project life cycle?
- How should Social Impact Assessment be applied in each phase, and in particular the planning and decommissioning phases?
- What are the similarities between Social Impact Assessment, Integrated Environmental Management and Social Development?

6. Research Methodology

6.1. Research Approach

This study focused on a qualitative approach. Qualitative research can be defined as an interpretative, multi-method approach to the study of people in their natural surroundings (Highlen & Finley, 1996:178).

Cassel & Symon in Aucamp (2002b: 32) state that qualitative research can be said to have a number of defining characteristics that includes:

- A focus on interpretation rather than quantification;
- An emphasis on subjectivity rather than objectivity;
- Flexibility in the process of conducting research;
- An orientation toward process rather than outcome;
- A concern with context – regarding behaviour and situation as inextricably linked in forming experience;
- An explicit recognition of the research process in the research situation.

Qualitative methods are specifically oriented towards exploration, discovery and inductive logic. The researcher tries to make sense of the situation without existing expectations in respect to the phenomenon or situation studied (Kotze, 1995).

Empirical data derived from case studies, interviews, observations and historical, interactional and visual text are examined systematically. Researchers strive to understand or interpret self-ascribed meanings of routine or problematic moments in people's lives.

Secondary information derived from case studies was examined for this study and integrated with a literature review. Consultants working in the SIA field were interviewed and findings were measured against current practice.

6.2. Research Design

Research design addresses the planning of scientific inquiry (Babbie, 1989:79). It is the plan or procedure for data collection and analysis that is undertaken to evaluate a particular theoretical approach (Guy, Edgely, Arafat & Allen, 1987:92). Research designs can be categorised in terms of their purposes: exploration, description, prediction and explanation (Dane, 1990: 246).

The research design for this study was exploratory in order to explore the research questions previously mentioned. Exploratory research, according to Bless & Higson-Smith (1995);(cited in Fouchè 2002a: 109), is conducted to gain insight into a situation, phenomenon, community or individual. The purpose of this research was to find possible reasons why a SIA is not conducted in all the phases of the project life cycle and to make recommendations as to how the Social Impact Assessment can be integrated within the phases of the project life cycle. This study is intended to provide a basis for further research. In this regard Fouchè (2002a: 109) postulates that an exploratory study can lead to the formulation of a problem or the development of a hypothesis.

6.3. Research Procedure and Strategy

The following paragraphs explain the research procedures and strategies that were followed and explain the method used for collecting data and the way the data was analysed.

6.3.1. Data Collection Methodology

According to Cresswell (1998); (cited in Fouchè, 2002b: 275), a case study can be regarded as an exploration or an in-depth analysis of a “bounded system” or single or multiple case/s, over a period of time. Sources of information can include interviews, documents, observations or archival records (Fouchè, 2002b: 275).

In this study, existing documentation is used. The main source of this data is case studies completed for Masters Degree dissertations on Social Impact Assessment in South Africa and SIA reports that are available as public documents.

6.3.2. Data Analysis

Analyses for exploratory research tend to be qualitative rather than quantitative. The analyses involve and are used to determine whether or not something has happened and are rarely complex (Dane, 1990: 246). Analysis means the categorising, ordering, manipulating and summarising of data to obtain answers to research questions.

In this research study the SIA case studies are analysed in order to determine where in the project cycle these SIA's were done. The case studies are dissected to establish whether it adhered to the principles of Social Impact Assessment, Integrated Environmental Management and Social Development.

Conclusions and recommendations based on the research findings are reflected in Chapter 4 of this report.

7. Key Concepts in study

In this chapter the key concepts of this study are defined. The following internationally recognised definitions are used for the purpose of the study:

Social Impact Assessment

The International Association for Impact Assessments (2003) states that Social Impact Assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by these interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.

Project Life Cycle

The Project Management Body Of Knowledge (as quoted by Burke, 1990:24) states: "...because projects are unique and involve a certain degree of risk, companies performing projects will generally subdivide their projects into several project phases to provide better management control. Collectively these project phases are called the project life cycle."

Environmental Impact Assessment

Modak and Biswas (1999:12) define Environmental Impact Assessment as a policy and management tool for both planning and decision-making. EIA assists the identification, prediction and evaluation of the foreseeable environmental consequences of proposed development projects, plans and policies. The outcome of an EIA study assists the decision maker and the general public to determine whether a project should be implemented and in what form.

Integrated Environmental Management

Integrated Environmental Management (IEM) is designed to ensure that the environmental consequences of development proposals are understood and adequately considered in the planning process. The term *environmental* is used in its broadest sense, encompassing biophysical and socio-economic components (Department of Environmental Affairs and Tourism, 1992:5).

Social Development

Social Development is characterised by an emphasis on linking social and economic interventions within the wider framework of a dynamic developmental process that promotes social progress and human welfare for all (Midgley, 1998: 90-91).

In summary, it is generally agreed that most projects pass through a six-phase life cycle consisting of the planning and initiation phase, the design and development phase, the implementation or construction phase, the commissioning and handover phase, the operational phase and the closing or decommissioning (and rehabilitation)

phase (compare Burke, 1990: 24; Beauchemin, 1999; Davidson, 2000: 1; Haynes, 1989:4 and Wood, 1988: 99).

Social Impact Assessment and Environmental Impact Assessment are tools used in Environmental Management. The current practice in South Africa is that a SIA is done as part of an EIA that is usually executed in the second phase, before the implementation or construction phase. The result is that the SIA is often limited to that phase of the project life cycle. This researcher proposes that SIA should be a process followed through all the phases of the project life cycle, in particular the planning and decommissioning phases.

8. Limitations of Study

The following limitations to the study have been identified:

- The lack of South African literature on the SIA is regarded as the most important limitation. Most literature available is from developed countries like Europe, North America and Australia.
- The lack of guidelines for SIA's limits this study, because the quality and contents of the SIA's used as case studies differ and is thus difficult to compare.
- Proposed changes in environmental legislation taking an extended time to realise, and the lack of available information about these changes, restricted this study. It is the view of this researcher that the information given to the public by the Department of Environmental Affairs and Tourism is inconsistent and can lead to confusion. This may cause that the interpretation of the legislation differs between individuals.

9. Division of Research Report

The following structure was used in this mini dissertation:

Chapter 1: General Introduction

Chapter 2: Theoretical framework for Social Impact Assessment

Chapter 3: Case studies contextualised within the theoretical framework of Social
Impact Assessment

Chapter 4: Findings, conclusions and recommendations

Bibliography

Chapter 2

Theoretical Framework for Social Impact Assessment

1. Introduction

The purpose of this study is to investigate the role and place of Social Impact Assessment in the project life cycle. In this chapter a theoretical framework is given for the project life cycle and the SIA process. The researcher determines the role of the SIA in each phase of the project life cycle from a literature perspective. Reasons why the SIA is not included in all phases of the project cycle and ways of integrating it, especially in the planning and decommissioning phases, are investigated. Brief references are made to Integrated Environmental Management and the Social Development perspective, as these two approaches overlap with the SIA.

2. The Project Life Cycle

The Project Management Body Of Knowledge as quoted by Burke, (1990:24) states: ..."because projects are unique and involve a certain degree of risk, companies performing projects will generally subdivide their projects into several project phases to provide better management control. Collectively these project phases are called the project life cycle."

Thus, the sequence of stages a project follows from beginning to end, which is similar for all projects, is called the project life cycle. The project life cycle puts resources, costs and schedules in a constant state of change. All project life cycles contain an element of uncertainty. Management must anticipate problems and uncertainties to be able to adapt their planning and shift their resources (Nicholas, 1990:91).

In order to understand where the SIA fits into the project life cycle, it is important to understand the cycle itself. A SIA can be seen not only as part of the cycle, but also as a project in its own right. The SIA thus also goes through a cyclic process. This will be discussed later in this chapter.

The project life cycle is the various phases a project must go through to attain its objectives and goals (Beauchemin, 1999). It is generally agreed (compare Burke, 1990: 24; Beauchemin, 1999; Davidson, 2000: 1; Haynes, 1989:4 and Wood, 1988: 99) that most projects pass through a five-phase life cycle consisting of the concept and initiation phase, the design and development phase, the implementation or construction phase, the commissioning and handover phase and the closing (and rehabilitation) phase.

In the **concept and initiation phase** a need or opportunity for the product, facility or service is established. The feasibility of proceeding with the project is investigated and if the project is accepted the next phase can be entered.

The **design and development phase** uses the guidelines set by the feasibility study to design the project and to develop detailed schedules and plans for implementing the project.

The **implementation or construction phase** implements the project using the baseline plan developed in the previous phase.

The **commissioning and handover phase** confirms that the project has been implemented or built to the design and terminates the initial phases of the project.

The **closing and rehabilitation phase** may be several years later in the project cycle, when the need for the project is no longer there and the project is terminated permanently.

Each of the phases in the project life cycle can be sub-divided into inputs, processes, outputs, key activities, milestones, hold-points and approvals. This is consistent with

6. Plan for gaps in the data

If data is incomplete or unavailable, make it clear that information is lacking and the reasons why.

7. Provide feedback on social impacts to project planners

Identify problems that could be solved with changes in the proposed action or alternatives.

8. Use SIA practitioners

Trained social scientists employing social science methods will provide the best results.

9. Establish monitoring and mitigation programs

Manage uncertainty by monitoring and mitigating adverse impacts.

The IAIA (2003) distinguish between core values, principles and guidelines. They describe core values as statements about fundamental beliefs that are deeply held. Principles are macro-statements that provide a general guide to a course of action about what ought to be done. Guidelines are described as statements that provide advice or direction by which to plan a specific course of action.

According to IAIA (2003) the **core values of a SIA** include the following:

1. There are fundamental human rights that are shared equally across cultures, and between males and females.
2. There is a right to have those fundamental human rights protected by the rule of law, with justice applied equally and fairly to all, and available to all.
3. People have a right to live and work in an environment which is conducive to good health and to a good quality of life and which enables the development of human and social potential.
4. Social dimensions of the environment – specifically but not exclusively, peace, the quality of social relationships, freedom from fear, and a sense of belonging – are important aspects of people's health and quality of life.
5. People have a right to be involved in the decision making about the planned interventions that will affect their lives.

6. Local knowledge and experience are valuable and can be used to enhance planned interventions.

The second leg of these core values is the **fundamental principles for development**. The IAIA states further that the SIA community of practice considers:

1. Respect for human rights should underpin all actions.
2. Promoting equity and democratisation should be the major driver of development planning, and impacts on the worst-off members of society should be a major consideration in all assessments.
3. The existence of diversity between cultures, within cultures, and the diversity of stakeholder interests need to be recognised and valued.
4. Decision-making should be just, fair and transparent, and the decision makers should be accountable for their decisions.
5. Development projects should be broadly acceptable to the members of those communities likely to benefit from, or be affected by, the planned intervention.
6. The opinions and views of experts should not be the sole consideration in decisions about planned interventions.
7. The primary focus of all development should be positive outcomes, such as capacity building, empowerment, and the realisation of human and social capital.
8. The term "the environment" should be defined broadly to include social and human dimensions, and in such inclusion, care must be taken to ensure that adequate attention is given to the realm of the social.

Lastly, the **principles specific to SIA practice** are the following:

1. Equity considerations should be a fundamental element of impact assessment and of development planning.
2. Many of the social impacts of planned interventions can be predicted.
3. Planned interventions can be modified to reduce their negative social impacts and enhance their positive impacts.
4. The SIA should be an integral part of the development process, involved in all stages from inception to follow-up audit.

5. There should be a focus on socially sustainable development, with the SIA contributing to the determination of best development alternative(s) – SIA (and EIA) has more to offer than just being an arbiter between economic benefit and social cost.
6. In all planned interventions and their assessments, avenues should be developed to build the social and human capital of local communities and to strengthen democratic processes.
7. In all planned interventions, but especially where there are unavoidable impacts, ways to turn impacted peoples into beneficiaries should be investigated.
8. The SIA must give due consideration to the alternatives of any planned intervention, but especially in cases where there are likely unavoidable impacts.
9. Full consideration should be given to the potential mitigation measures of social and environmental impacts, even where impacted communities may approve the planned intervention and where they may be regarded as beneficiaries.
10. Local knowledge and experience and acknowledgement of different cultural values should be incorporated in any assessment.
11. There should be no use of violence, harassment, intimidation or undue force in connection with the assessment or implementation of a planned intervention.
12. Development processes that infringe the human rights of any section of society should not be accepted.

If this description of core values, principles and guidelines is taken into account, this researcher is of the opinion that the principles for a SIA as described in Burdge (1998:115-120) and by the Interorganizational Committee (1994:139) can be seen as guidelines, and those described by IAIA (2003) as the more philosophical principles that should be followed by SIA practitioners. Both sets of principles are compatible with those of Social Development and Integrated Environmental Management that are discussed later in this chapter. In this discussion it will be indicated that although there are differences, it is clear that there are quite a few similarities as well.

3.3. Social Impact Assessment Variables

It is impossible to detail all dimensions of social impact because social change has a way of creating more changes. For example, social change processes that result directly from an intervention (first order changes) can lead to other social change processes, the second- and higher order change processes. Thus, resettlement can lead to rural-to-urban migration and changes in food production. The social impact has also caused an economic and biophysical impact.

According to Vanclay (2002:185) the following important factors need to be considered when trying to classify types of social impacts:

- **People's way of life** – how they work, play and interact with one another on a daily basis;
- **Their culture** – their shared beliefs, customs, values and language or dialect;
- **Their community** – its cohesion, stability, character, services and facilities;
- **Their political systems** – the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place and the resources provided for this purpose;
- **Their environment** – the quality of the air and water that people use; the availability and quality of the food that they eat; the level of hazard or risk, dust and noise which they are exposed to; the adequacy of sanitation, their physical safety, and their access to and control over resources;
- **Their health and well-being** – where health is understood as a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity;
- **Their personal and property rights** – particularly whether people are economically affected, or experience personal disadvantage, which may include a violation of their civil rights; and
- **Their fears and aspirations** – their perceptions about their safety; fears about the future of the community; and their aspirations for their future and the future of their children.

SIA variables point to measurable change in human population, communities and social relationships resulting from a development project or policy change (Burdge, 1998: 35; Interorganizational Committee, 1994:120). A number of lists describing social impacts exist in SIA literature (Burdge, 1998:43; Interorganizational Committee, 1994:120-121; Taylor, Bryan & Goodrich, 1995:125; Vanclay, 2002:185). There are wide discrepancies about what constitutes social impacts. The most widely used and accepted is the list compiled by the Interorganizational Committee on Guidelines and Principles for Social Impact Assessment (1994). Typical SIA variables as described by Burdge (1998:43) and The Interorganizational Committee (1994: 120-121) are:

1. Population Impacts

- Population change
- Inflow or outflow of temporary workers
- Presence of seasonal (leisure) residents
- Relocation of individuals or families
- Introduction of people dissimilar in age, gender, racial and ethnic composition

2. Community/Institutional arrangements

- Formation of attitudes towards the project
- Interest group activity
- Alteration in size and structure of local government
- Presence of planning and zoning activity
- Industrial diversification
- Enhanced economic inequities
- Change in employment equity of minority groups
- Changing occupational opportunities

3. Conflicts between local residents and newcomers

- Presence of an outside agency
- Introduction of new social classes
- Change in the commercial/industrial focus of the community
- Presence of weekend residents (recreational)

4. Individual and family level impacts

- Disruption in daily living and movement factors
- Dissimilarity in religious practice
- Alterations in family structure
- Disruption in social networks
- Change in leisure opportunities
- Perceptions of public health and safety

5. Community infrastructure needs

- Change in community infrastructure
- Land acquisition and disposal
- Effects on known cultural, historical and archaeological resources

6. General concerns

- This would include aspects that have an influence on the quality of life such as noise, water pollution and sound pollution.

Vanclay (2002:188) is of the opinion that the list provided by the Interorganizational Committee is not a list of social impacts, but rather a list of indicators that should be considered in a study to provide information that could be used to determine social impacts that might exist in a particular community. He makes the statement that many social changes are not in themselves impacts.

Vanclay further states that the SIA literature does not distinguish between the social change processes and the social impacts that are experienced. Social change processes are set in motion by project activities or policies. Social change processes can lead to several other, second-order, social change processes. Depending on the characteristics of the local social setting and mitigation processes that are put in place, social change processes can lead to social impacts. Direct social impacts result from social change processes that result from a planned intervention. It may be intended or unintended. Indirect social impacts are a result of changes in the biophysical environment.

This researcher agrees with Vanclay. Social impacts and social change do not usually happen overnight. It is all part of a process. It makes sense to look at the

social environment from a process-orientated perspective. The social, economic and biophysical parts of the environment are closely linked. A change in one will lead to change in the others. A list of indicators does not accurately define social impacts. When social change processes are taken into account it is likely that a more comprehensive SIA will be the result.

Vanclay (2002: 193) distinguishes between seven groupings of social change processes:

1. **Demographic processes** – changes in the number and composition of people;
2. **Economic processes** – relating to the way in which people make a living and economic activity in the society;
3. **Geographical processes** – changes in land use patterns;
4. **Institutional and legal processes** – relating to the efficiency and effectiveness of institutional structures including governmental and non-governmental organisations;
5. **Emancipatory and empowerment processes** – increasing influence in decision making processes
6. **Socio-cultural processes** – affecting the culture of a society; and
7. **Other processes** – new technologies and new phenomena.

In summary it can be stated that the distinction between social impacts and the social change process was not made in SIA literature before Vanclay conceptualised it in 2002. A greater awareness of the social processes causing social impacts will lead to better SIA's. There is always the danger that a list of variables can be used as a checklist. The approach that social change processes lead to social impacts can reduce the risk.

The field of SIA is rapidly expanding and new and exciting literature, rethinking and simplifying the tools used in the assessments paves the way forward. The process-orientated approach underlines the importance of the SIA in all phases of the project life cycle.

An important addition to SIA literature is the publishing of International Principles for Social Impact Assessment by the International Association for Impact Assessment in May 2003. This document is the result of an official five-year project run by the IAIA. Input from all over the world was incorporated. It is a living document that will be modified continuously and it supports the process-orientated approach.

3.4. The Social Impact Assessment Process

The SIA process is often regarded as part of the EIA process. It is, however, a separate but closely related process for which ten steps have been identified by the Interorganizational Committee (1994:127 -138), Finsterbusch (1995:241-243), Vanclay (1999:309) and Taylor *et al*, (1995:83):

Public Involvement

Develop and implement an effective plan involving all potentially affected parties. The public involvement should start at the very beginning of planning for the proposed action.

Identification of alternatives

Describe the proposed action or policy change and reasonable alternatives. Enough detail must be given to begin to identify the data requirements needed.

Baseline conditions

Describe the relevant human environment/area of influence and baseline conditions. The baseline conditions are the existing conditions and past trends associated with the human environment in which the proposed activity is to take place.

Scoping

Identify the full range of probable social impacts that will be addressed through a variety of means including discussion or interviews with a number of those potentially affected.

Projection of estimated effects

Investigate the probable impacts with and without the actions and predicted impacts that can be interpreted as the difference between the future with and without the proposed action.

Predicting responses to impacts

Determine the importance of the identified social impacts to the affected public.

Estimate Indirect and Cumulative impacts

Consider the flow-on ramifications of projects, including the second, third (and higher order) impacts. Also consider how the impacts of one project may affect and be affected by other projects.

Changes in alternatives

Recommend new or changed alternatives and estimate or project their consequences. Each new alternative or recommended change should be assessed separately.

Mitigation

Develop and implement a mitigation plan. Mitigation includes avoiding the impact by modifying or not taking an action; minimizing, rectifying or reducing the impacts through the design of the project or policy; or compensating for the impact by providing substitute facilities, resources or opportunities.

Monitoring

Develop and implement a monitoring plan. A monitoring plan should be developed that is capable of identifying deviations from the proposed action and any important unanticipated impacts.

Vanclay (1999:309) is of the opinion that an eleventh step (Evaluation or auditing) can be added to the above. Evaluation or auditing could be utilised to compare actual and mitigated impacts with those identified in the initial SIA. This researcher agrees that this is important. In conclusion, SIA is a process of change management. Viewing the SIA only as a once-off report reduces the value of the SIA.

4. Social Impact Assessment and the Project Life Cycle

As discussed above, most projects pass through a five-phase life cycle consisting of the concept and initiation phase, the design and development phase, the implementation or construction phase, the commissioning and handover phase and the closing and rehabilitation phase. Social impacts will be different at the different phases. Although the project life cycle ends at the closing and rehabilitation phase, social impacts might continue long after that.

The concept and initiation phase

Rumours of pending projects or policy changes can cause social impacts. Uncertainty plays an important role in the pre-development and development stage of a project (Marx, 2002: 89). As Gambling and Freudenburg (1992) in Marx (2002:89-90) observed:

"In the biological or physical sciences, it may be true that impacts do not take place until concrete alterations of physical or biological conditions have occurred. With the human environment, however, measurable impacts begin as soon as there are changes in social conditions – often from the time when information about a project first becomes available. (...) Speculators buy property, politicians manoeuvre for position, interest groups form or redirect their energies, stresses mount, and a variety of other social and economic impacts take place, particularly in the case of facilities that are large, controversial, risky or otherwise out of the range of ordinary experiences for the local community. These changes have sometimes been called "pre-development" or "anticipatory" impacts, but they are far more real and measurable than such terminology might imply."

It is clear that considerable impacts can occur in response to the information released about a project, whether it is correct or not. Social considerations should be integrated into the feasibility study.

The design and development phase

Social impacts begin the day the action is proposed and can be measured from that point onwards. Construction of reality by the community begins during this phase. Real, measurable and significant effects on the human environment can begin to take place as soon as there are changes in the social environment (Interorganizational Committee, 1994:18). From the earliest announcements of a pending project or policy change, expectations and effects are experienced. The real estate market can be influenced, interest groups may be formed and politicians can start planning strategies. These changes can occur by merely introducing new information into a community (Vanclay, 1999: 311). Barrow (2002:186) and Dietz (1987:65) both state that a SIA should be undertaken at the earliest stages of planning before decisions have been made and at a point at which the public discussion it generates can still influence decisions.

The implementation or construction phase

This is usually the phase where the largest number of changes takes place. Initial construction phases often create the most social impacts because they usually involve more workers than the commissioning and handover phase and because appropriate infrastructure and procedures are often not in place. Workers are separated from their families, alcohol or drug abuse may occur, community-infrastructure may be over-stretched and friction between residents and newcomers may develop. Uncertainty about the future may change the residents' feelings about their communities (Vanclay, 1999: 311). Social stresses can be developed due to changing patterns of social interaction. This is also the phase during which displacement and relocation occurs (Interorganizational Committee, 1994:21).

The commissioning and handover phase

This phase occurs after the construction is completed. It will often require fewer workers than the previous phase. The most beneficial social impacts may be experienced during this phase. Long-term economic benefits following from development start to show and expectations of positive effects such as a quality infrastructure and employment opportunities can be realized (Interorganizational

Committee, 1994:21). Appropriate planning and the implementation of mitigation and monitoring procedures can assist to minimise negative social impacts and maximise benefits in this phase. Communities return to a period of normalisation (Vanclay, 1999: 311).

The closing and rehabilitation phase

The closing or decommissioning phase starts when a proposal is made that the project and associated activity will cease some time in the future. As in the planning phase, social impacts begin when the intent to close down is announced. Disruption to the local community may be lessened if one type of worker is replaced by another. Teams involved in environmental rehabilitation where a mine is closed down might, for example, provide jobs to former mine employees (Interorganizational Committee, 1994:21).

Vanclay (1999:311) differentiates between two forms of decommissioning. The first is when a project that was scheduled to go ahead is cancelled, and the second is when long-term activity that was part of the every day life of a community is shut down. Impacts with the former are less severe, but still important because of the expectations that arose. The latter can have very severe impacts, including considerable job loss and the economic decline of the community. If the closure was not predicted and a result of economic downturn, little can be done. In cases where closures can be predicted, such as the closure of a military base or mine, mitigating measures can be implemented to try minimising impacts.

The SIA needs to be process-orientated to ensure that social issues are included in all phases of the project life cycle, as well as ensuring that development is acceptable, equitable and sustainable (Vanclay, 2002:190). Process-orientated social impact assessment is the best way of coping with unforeseen change in development, achieving maximum adaptability when such changes occur and achieving the best long-term results. SIA's extending over the entire life cycle of a project improves sustainability (Geisler, 1993:334).

As can be seen in the discussion above, SIA have a role to play in all the phases of the project life cycle. Traditionally SIA practitioners focus on ex ante (pre-project)

research as opposed to post facto (post project) research, aiming to illuminate the unanticipated consequences of development (Geisler, 1993:334). The benefits of ex ante research include the establishment of a baseline against which later studies can be measured, the discrimination of natural variation in key variables from change due to project execution (true impacts) and unbiased comparison of alternatives, including the status quo, before vested interest becomes hardened. There are, however, always some social impacts that will escape detection in ex ante assessments. Both foresight and hindsight are necessary for a SIA to fulfil its mission. The longer the life of a project the greater the need to integrate pre-project assessments with post-project assessments.

5. Integrated Environmental Management

Integrated Environmental Management (IEM) is designed to ensure that the environmental consequences of development proposals are understood and adequately considered in the planning process. The term *environmental* is used in its broad sense, encompassing biophysical and socio-economic components (Department of Environmental Affairs and Tourism, 1992:5). IEM is intended to guide the development process by providing a positive, interactive approach to gathering and analysing useful data and by presenting findings in a form that can be easily understood by non-specialists (Preston, Robins & Fuggle, 1996: 748).

Aucamp (2002a) use two definitions to explain the concept of Integrated Environmental Management:

1. Environmental management integrated into the total management procedures applied by a company.
2. All aspects of environmental management as controlled by the different authorities merged into a single environmental management system controlled by a single authority.

Typical management procedures include risk management, financial management, human resource management, quality management, health and safety management and project management. Environmental management can be incorporated in all these procedures.

The Department of Environmental Affairs and Tourism (1992:5) identified twelve basic principles underpinning Integrated Environmental Management, namely:

- Informed decision-making;
- Accountability for information on which decisions are taken;
- Accountability for decisions taken;
- A broad meaning for the term *environment* (i.e. one that includes physical, biological, social, economic, cultural, historical and political components);
- An open, participatory approach in the planning of proposals;
- Consultation with interested and affected parties;
- Due consideration of alternative options;
- An attempt to mitigate negative impacts and enhance positive aspects of proposals;
- An attempt to ensure that the social costs of development proposals (those borne by society, rather than the developers) be outweighed by the social benefits (benefits to society as a result of the actions of developers);
- Democratic regard for individual rights and obligations;
- Compliance with these principles during all stages of the planning, implementation and decommissioning of proposals (i.e. from cradle to grave) and
- The opportunity for public and specialist input in the decision-making process.

Authorities control aspects of environmental management including water, air, waste and impacts.

Du Plessis and Nel (2003:95) state that IEM means different things to different people. A holistic approach means that environmental considerations should be integrated with decision and planning processes from a very early stage and that all post-planning phases of decision cycles should be taken in account. Although no authority controls SIA in South Africa, it is clear from the principles of IEM that SIA's

do have a role to play in environmental management. The basic principles of SIA are similar to that of IEM. SIA can be adopted as an integral part of planning, decision-making and monitoring or as an added on specialist report (Barrow, 2002:186). For SIA to become an important part of IEM, the former is recommended.

6. Social Development

Within a developmental framework, SIA could be linked with Social Development, an approach to social welfare that has been officially adopted by South Africa to reconstruct its social welfare system. Social Development may be viewed as an approach for promoting people's welfare or social well-being (Midgley, 1995:13). Barrow (2000: 24) defines it as the incorporation of a people-oriented focus into general development efforts. Social Development is characterised by an emphasis on linking social and economic interventions within the wider framework of a dynamic developmental process that promotes social progress and human welfare for all (Midgley, 1998: 90-91).

Social Development focuses on the community or society and on wider social processes and structures. It is dynamic, involving a process of growth and change. Social Development explicitly seeks to integrate social and economic processes and views both processes as an important part of the development process. Social Development cannot take place without economic development and economic development is meaningless unless it improves the social welfare of the population (Midgley, 1995:23). Social Development seeks to harmonise social interventions with economic development efforts. Without supportive Social Development, sustainable development is unlikely (Barrow, 2000:24).

Midgley (1995: 26-28) identifies the following key elements in the Social Development process:

- Social Development is linked to economic development.
- Social Development has an inter-disciplinary focus.
- Social Development invokes a sense of process. It is a dynamic concept in which the notion of growth and change is explicit.
- The process of change is progressive in nature. It proclaims faith in the process of human improvement.
- Social Development is interventionist. It rejects the idea that social improvements occur naturally as a result of economic improvement. Organised efforts are needed to bring about improvements in social welfare.
- Social Development goals are fostered through various strategies that seek, directly or indirectly, to link social interventions with economic development efforts.
- Social Development is concerned with the population as a whole and it is universal in scope.
- Social Development has a spatial focus within the context of its universalism and seeks to promote social welfare within specific spatial settings.
- The goal of Social Development is to promote social welfare. Social welfare means a condition of social well-being that occurs when social problems are satisfactorily managed, social needs are met and social opportunities are created.

Social Development and SIA are both process-orientated and have similar goals. The environmental crisis is also a social crisis and cannot be addressed by merely adding environmental factors to decision-making. Social Development and SIA need to address the social and economic values that will determine the relationship between humans and their environment (Craig, 1990:40).

7. Conclusions

The role that social factors play in society is increasingly being recognised. With the institutionalisation of corporate governance in South Africa in 1994 a step in the right direction was made. According to Sir Adrian Cadbury (as quoted by King Committee on Corporate Governance, 2002: 7) corporate governance is concerned with maintaining the balance between economic and social goals and between individual and communal goals with the aim to align as closely as possible the interests of individuals, corporations and society. Although many big companies do realise their social responsibility, there are still those who don't. A well-managed company will be aware of, and respond to social issues (King Committee on Corporate Governance, 2002: 12).

Social Impact Assessment has a role to play in sustainable development. From the study above, it is clear that the role of SIA's is much more than a once off ex-ante (in advance) assessment. SIA is a process that should be implemented throughout the project life cycle. The social environment changes constantly with the result that some impacts predicted prior to a project may not occur, whilst other impacts that were thought unlikely may occur. The fact that SIA's are only legally requested as a specialist study within an EIA can lead to many SIA's not being done properly, or at all.

Unless SIA's are legally enforced, chances are slim that it will be given the standing that it deserves. The aim of a SIA is to ensure that development maximises its benefits and minimises its costs, especially to the people involved. Developers are often discouraged by the initial costs of a SIA and fail to look at the long-term benefits. As long as benefits are only measured in monetary terms, the SIA will have a hard battle ahead. Social costs and benefits are often difficult to measure in terms of money and are thus disregarded. SIA's as a tool should be understood by developers and scientists. If the value of SIA's were realised, their implementation would be much easier. SIA's could be implemented in fields other than Environmental Management, like Social Development. All development professionals and agencies could use it as a tool for sustainable development.

Chapter 3

Case Studies contextualised within the theoretical framework of Social Impact Assessment

1. Introduction

In the previous chapter a theoretical framework for Social Impact Assessment was given. The role and place of SIA in the project life cycle were established and the principles of Social Impact Assessment, Integrated Environmental Management and Social Development were highlighted and briefly discussed. In this chapter, six SIA case studies are analysed and tested against the theory discussed in the previous chapter, with special reference to where in the project life cycle these studies were conducted and whether they adhere to the principles of SIA, IEM and Social Development. The following case studies are used:

- Pelindaba Pebble Bed Modular Nuclear Reactor related fuel manufacturing plant and associated transport of uranium oxide and nuclear fuel – Northwest Province;
- Koeberg Pebble Bed Modular Nuclear Reactor - Western Cape;
- Aluminium Pechiney smelter within the Coega Industrial Zone – Eastern Cape;
- Gautrain Rapid Rail Link - Gauteng;
- Yatela Mining Operation – Republic of Mali and
- The upgrading of the Olushandja Dam – Namibia.

The Yatela Mining Operation and upgrading of the Olushandja Dam case studies are available on the Nexus database belonging to the National Research Foundation and are available in academic libraries. The remaining studies – Pelindaba PBMR, Koeberg PBMR, Coega Smelter and the Gautrain were obtained from the authors, but are available on the Internet as well. Since Social Impact Assessments are in the public domain no permission is needed to use these case studies.

The purpose of this chapter is not to analyse the content or quality of the assessments, but to determine where in the project life cycle the studies were conducted and if it ascribes to the principles of SIA, IEM and Social Development. The chapter starts with a brief description of each project. Thereafter it determines where in the Project Life Cycle the SIA were conducted. Finally each SIA is measured against the principles of SIA, IEM and Social Development.

2. Case studies

A brief description of each project is provided as background. The Social Impact Assessment that was done for each project as such is not discussed in detail. The reason for this is that SIA reports are lengthy documents containing a huge amount of information, and a detailed discussion of each assessment goes beyond the scope of this project.

2.1. Pelindaba Pebble Bed Modular Nuclear Reactor Related Fuel Manufacturing Plant and Associated Transport of Uranium Oxide and Nuclear Fuel

As part of its supply-side management initiatives, Eskom has been involved in considerations regarding improvements to existing power stations to enhance efficiency as well as the potential development of future power stations of various technologies, primary energy supply and also the importation of primary energy or electricity. A further motivation is the large amount of air pollution created by the existing coal fired power stations. A number of power generation technologies, not yet implemented in South Africa on a commercial basis, are being evaluated in terms of technical, socio-economic and environmental aspects. Pebble Bed Modular Reactor technology is one of the technologies that is being investigated. It is proposed that nuclear fuel be manufactured at Pelindaba and then be transported by road to Koeberg (Schoeman, Snyman & De Waal, 2002).

2.2. Koeberg Pebble Bed Modular Nuclear Reactor

The Koeberg Pebble Bed Modular Nuclear Reactor (PBMR) form part of the Eskom project as discussed above. Because of demographic differences and the different technologies involved, different assessments were done on Koeberg and Pelindaba. It is intended that a 110 MW class demonstration module PBMR electricity-generating power station be erected at Koeberg as demonstration plant. The proposed PBMR will be situated on the same site as the current Koeberg Nuclear Reactor (Schoeman, Brugge & De Waal, 2002).

2.3. Aluminium Pechiney Smelter within the Coega Industrial Zone

Aluminium is a commodity for which there is an increasing international demand. In order to meet this demand, Aluminium Pechiney is proposing the development of an aluminium smelter in the Coega Industrial Development Zone in the Eastern Cape Province of South Africa. The context is unique when compared to previous smelter developments in South Africa, in the sense that it will occur within an already earmarked and demarcated Industrial Development Zone. When fully operational the plant will have the capacity to produce 485 000 tonnes of aluminium per year. Aluminium Pechiney is the fourth largest aluminium producer internationally and a world leader in the design and supply of aluminium technology (Van der Walt, Ngwadla, McKenzie & Heinsohn, 2002).

2.4. Gautrain Rapid Rail Link

In February 2000 the Premier of Gauteng, Mbhazima Shilowa, announced a proposed rapid rail system linking Pretoria, Johannesburg and the Johannesburg International Airport as one of ten Spatial Development Initiatives of the Gauteng Provincial Government. The rapid rail link is aimed at providing an alternative public transport mode, which will attract private car-users and alleviate congestion between Johannesburg and Pretoria, where, for more than a decade, the traffic volume has been growing at approximately 7% per annum. The proposed rail link will entail the construction of a modern, state-of-the-art rail connection linking Johannesburg, Pretoria and the Johannesburg International Airport. The network will consist of two

is part of a two-dam supply system comprising the Calueque dam in the Cunene River in Angola and the Olushandja dam in Namibia. Construction on Olushandja dam was completed in 1975. It acts as storage and balancing dam for water supplied from Calueque. Olushandja dam is 17,7km long and about 300m wide (Yates, 1995:3). In the past this reservoir has not been used to store water at its maximum capacity. The Namibian Department of Water Affairs proposed an upgrade, which entailed significant fluctuations in the level of the dam with implications for the adjacent human settlements (Day, 1995:2). The upgrading of the dam has been

completed. The SIA was done at a very late stage, just before the completion of the dam. For the initial building of the dam, no SIA were done. EIA's only emerged about 20 years after completion of the dam.

3. Social Impact Assessment and the phases of the Project Life Cycle

This section investigates in which phase of the project life cycle the SIA for each of the case studies was done. This is summarised in Table 1 followed by a brief discussion.

Table 1: SIA and the phases of the Project Life Cycle

Project	Concept and initiation phase	Design and development phase	Implementation or construction phase	Commissioning and handover phase	Closing and rehabilitation phase
Pelindaba PBMR		X			
Koeberg PBMR		X			
Coega Smelter		X			
Gautrain		X			
Yatela Mine		X			
Olushandja Dam			X		

Most of the assessments were done in the design and development phase, with the exception of the assessment of the Olushandja dam, which was done in the implementation or construction phase. This is in line with the findings of the literature study that traditionally SIA practitioners focus on ex ante (pre-project) research as opposed to post facto (post project) research, aiming to illuminate the unanticipated consequences of development (Geisler, 1993:334). All the projects except the Yatela

Mine and the Olushandja Dam are still in the implementation or construction phase. Nowhere in any of the reports is it recommended that the SIA should be repeated.

It is suggested that mitigation measures should be included in Environmental Management Plans (EMP's). In the Record of Decision (RoD) for the Koeberg PBMR issued on 25 June 2003 by the Department of Environmental Affairs and Tourism, the only references to the social environment is that the public should be kept informed. It also specifies that an Environmental Monitoring Committee involving all the stakeholders must be formed. The preliminary decommissioning plan that is requested is related to the nuclear waste, and not to the impact on the social environment.

It is clear that these SIA's are used as one - off tools presenting a snapshot view of a specific phase in the project life cycle. Current literature indicates that there is a need for SIA's to be done in all phases of the project cycle. SIA work is by nature anticipatory. It should be supported by empirical evidence, but it is not happening in the SIA field. Very little previous knowledge is available and very little impact monitoring is done (Freudenburg and Keating, 1985:584). Rees in Geisler (1993:332) states that unless the SIA is replicated like an experiment over time, it will be conducted on a reactive, project-by-project, short-term basis of limited value to sustainable development. The SIA should be incorporated fully in the project cycle.

All the SIA reports investigated were specialist studies done as part of Environmental Impact Assessment reports. None of them included monitoring plans specific to the SIA. The lack of social monitoring is an international problem. The Environment Protection Agency (1992: 62) states that monitoring is in general poorly executed and almost non-existent in terms of social impacts. Chadwick and Glasson (1999: 812) confirm this and this researcher believes that it is still true in the majority of cases. The reason for this might be the lack of recognition of the benefits of social monitoring, as well as the fact that many scientists view monitoring as essentially a technical/scientific process of systematic data collection; collecting samples from a borehole to test water quality, for example. The shortcomings in the case studies are similar to shortcomings pointed out in the literature study. The findings thus support the literature and are therefore hardly surprising.

4. Application of Social Impact Assessment principles

The following section investigates the application of the principles of SIA during the assessments. In Table 2 each project is measured against the principles of SIA. This is a general rather than a detailed comparison.

Table 2: Application of SIA principles

Principles	Pelindaba PBM R	Koeborg PBM R	Coega Smelter	Gautrain	Yatela Mine	Olushandja Dam
Equity considerations	Yes	Yes	Yes	Yes	Yes	Yes
Social impacts can be predicted	Yes	Yes	Yes	Yes	Yes	Yes
Reduce negative impacts and enhance positive impacts	Yes	Yes	Yes	Yes	Yes	Yes
SIA integral part of development process, involved in all stages from inception to follow-up audit	No	No	No	No	Yes	No
Focus on socially sustainable development	Yes	Yes	Yes	Yes	Yes	Yes
Build social and human capital of local communities and strengthen democratic processes	Yes	Yes	Yes	Yes	Yes	Yes
If unavoidable impacts, ways to turn impacted peoples into beneficiaries be investigated	Yes	Yes	Yes	Yes	Yes	Yes
Due consideration to alternatives -especially in cases of likely unavoidable impacts	Yes	Yes	Yes	No	Yes	Yes
Full consideration given to potential mitigation measures even where impacted communities may approve plans and are regarded as beneficiaries	Yes	Yes	Yes	Yes	Yes	Yes
Local knowledge & experience and acknowledgement of different local cultural values incorporated	No	No	No	No	Yes	Yes
No use of violence, harassment, intimidation or undue force in connection with the assessment or implementation	Yes	Yes	Yes	Yes	Yes	Yes
Development processes that infringe human rights of any section of society shouldn't be accepted	Yes	Yes	Yes	Yes	Yes	Yes

All of the studies applied the principles of SIA to a greater or lesser extent. However, a shortcoming in many of the reports was that the SIA was not an integral part of the development process throughout all the phases of the project life cycle. The reason for this may be that these projects are still in the design and development phase, but even if this is taken into consideration, there is no indication that SIA's are planned for any of the other phases.

Only the SIA for the Yatela Mine specifically plans for social impacts in all the phases. The other reports might refer to it or suggest that it be done as part of the monitoring programme required by the EIA. This vague reference is not sufficient and the risk of excluding the recommendations of the SIA is greater. Monitoring should be initiated as early as possible in the process and should be part of the planning stage of a project or programme (Taylor *et al*; 1995: 90). Criteria must be set for monitoring and a baseline to monitor against must be established. Monitoring should occur according to the criteria agreed to in the planning phase throughout the duration of the project (Hugo *et al*; 1997: 226). Monitoring exercises should start with clear objectives and a practical and workable framework. The framework establishes the objectives for the monitoring and helps to ensure that the monitoring programme will supply the required data. The aims of the monitoring should be formulated clearly and set out in explicit guidelines to ensure that no deviation from the required monitoring programme occurs, because changes in sampling procedures may invalidate comparisons of monitoring data (Bisset and Tomlinson; 1988:117).

Gilpin (1995:4) states that monitoring is generally undertaken before, during and after the construction of a project. This ensures that the significance of impacts can be determined and that the impacts occurring are a result of the project, and not caused by factors not related to the project. If a concrete, measurable plan or programme is not in place, chances are that the SIA and its recommendations might be treated as a once off snapshot assessment, and its full potential might never be used.

Another shortcoming is the failure to use local knowledge and experience and the dismissal of local values. Anthropological data on rural, ethnically or racially diverse communities is best for understanding the cultural context of the impacted community (Interorganizational Committee, 1994:144). This is, however, difficult in urban

settings, especially in a multi-cultural country like South Africa, where many cultural values have been lost and replaced with newly formed general values, more specific to city-dwellers than to any specific cultural group. Casual and unplanned contacts can be valuable sources of information and insight. It allows the researcher to observe people in their own environment, gather information from them and provide them with information regarding the project (Taylor *et al*, 1990:201). In rural settings this task is a lot easier and that is probably the reason why cultural values could be included in the SIA's of Yatela Mine and Olushandja Dam.

The core values and principles for SIA's can be seen as a philosophy and a code of conduct against which SIA practitioners can measure themselves. Many professions, the medical profession for example, have a code of conduct that prescribes their professional behaviour.

There is currently no certification available for environmental practitioners, but the Second Amendment Bill on the National Environmental Management Act (Act No 107 of 1998) provides for the registration of environmental assessment practitioners. This includes SIA practitioners. To address this, a working group consisting of representatives from the Southern African Institute of Ecologists and Environmental Scientists (SAIE & ES) and the Southern African Affiliate of the International Association for Impact Assessment (IAIAsa) was established in May 1998 to investigate the need for certification of environmental practitioners. In February 2001 an Interim Certification Board was established under the auspices of SAIE & ES. The Interim Certification Board is operating as an autonomous body, run by its member organisations for a trial period of two years. The function of the interim Certification Board is to provide an operating structure for the certification process. Certified Environmental Assessment Practitioners are required to act in accordance with the IAIAsa's code of practice (EAPSA Information booklet, 2003: 3). Since the International Association for Impact Assessment (IAIA, 2003) published the core values and principles for SIA, the assumption is made that the Southern African Affiliate of the IAIA prescribes to these as well. SIA practitioners should adhere to these principles to ensure good practice.

5. Application of the principles of Integrated Environmental Management

This section investigates whether the principles of Integrated Environmental Management were taken into consideration in the case studies. As discussed in the previous chapter there are many similarities between SIA, IEM and Social Development.

Vanclay (2002:190) defines SIA as the process of analysing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment.

Integrated Environmental Management (IEM) is designed to ensure that the environmental consequences of development proposals are understood and adequately considered in the planning process. The term *environmental* is used in its broad sense, encompassing biophysical and socio-economic components (Department of Environmental Affairs and Tourism, 1992:5).

Social Development is characterized by an emphasis on linking social and economic interventions within the wider framework of a dynamic developmental process that promotes social progress and human welfare for all (Midgley, 1998: 90-91). It is difficult to do an in-depth assessment on the basis of a desk-top analysis, therefore the information in Table 3 refers to the superficial impressions that can be made from studying the document in isolation, without taking the EIA's of which they all form part of in consideration.

Table 3: Principles of IEM

Principles	Pelindaba PBM R	Koeberg PBMR	Coega Smelter	Gautrain	Yatela Mine	Olushandja Dam
Informed decision-making	Yes	Yes	Yes	Yes	Yes	Yes
Accountability for information on which decisions are taken	Yes	Yes	Yes	Yes	Yes	Yes
Accountability for decisions taken	Yes	Yes	Yes	Yes	Yes	Yes
A broad meaning for the term environment	Yes	Yes	Yes	Yes	Yes	Yes
An open, participatory approach in planning of proposals	Yes	Yes	Yes	Yes	Yes	Yes
Consultation with interested and affected parties	Yes	Yes	Yes	Yes	Yes	Yes
Due consideration of alternative options	Yes	Yes	Yes	No	Yes	Yes
An attempt to mitigate negative impacts and enhance positive aspects of proposals	Yes	Yes	Yes	Yes	Yes	Yes
Attempt to ensure that social costs of development proposals be outweighed by social benefits	Yes	Yes	Yes	Yes	Yes	Yes
Democratic regard for individual rights and obligations	Yes	Yes	Yes	Yes	Yes	Yes
Compliance with these principles during all stages of planning, implementation and decommissioning of proposals	No	No	No	No	Yes	No
The opportunity for public and specialist input the decision-making process.	Yes	Yes	Yes	Yes	Yes	Yes

The SIA's mostly adhered to the principles of IEM. It is seen as good practice to take these principles into consideration. Preston *et al* (1996: 761) includes the following reasons for incorporating IEM principles:

- policy directives requiring most state departments to comply with IEM procedures;
- social responsibility considerations by major corporations;
- advice to comply with IEM requirements by planning professionals; and
- requirements of institutions providing finance for new developments.

Most of these reports are specialist studies that form part of EIA's. The IEM procedures attempt to overcome the social shortcomings identified in EIA's by including a comprehensive social component to the IEM procedures (Yates, 1995:21). The projects are large and controversial and therefore handled with care. The accountability for the decisions taken is vested in the Provincial Departments of Environmental Affairs except when the project is of national importance, such as the PBMR where the National Department of Environmental Affairs and Tourism is the controlling authority. The proponent is accountable for the information on which the decisions are taken.

In the case of the Olushandja Dam few previous studies were done, and those that were done did not take the IEM principles into account. The latest assessment attempts to rectify that. As discussed previously, the lack of specific monitoring programmes is a definite shortcoming in all but the Yatela Mine report.

Most of these projects have long public participation processes. IEM aims to ensure that the concerns of the public are addressed and that unnecessary misunderstandings and conflicts are less likely to occur (Pollet *et al*; 1999:6). An unfortunate reality is that the South African public are often very passive and do not use the power that they have. This is amongst the serious shortcomings of the South African EIA process.

6. Social Development and the Case Studies

Each case study will not be measured against the principles of Social Development in tabular format. It emerged during the research that even if it may not have been the intention, some of the principles of Social Development were met by all the case studies. The applicability of the principles for Social Development as identified by Midgley (1995: 26-28) in the SIA's studied will be discussed in the following paragraphs.

The first principle states that Social Development is linked to **economic development**. This is true of all the SIA case studies. SIA's are usually done to establish the social impact of a project that will lead to economic gain. All the projects studied will lead to increased economic activities. The communities where these projects are implemented will gain financially and skills and facilities will be developed.

The next principle of Social Development is that it has an **interdisciplinary focus**. This is also true of SIA's. A SIA is usually done in teams with members skilled in different disciplines, as has been the case with all six case studies. Members of the community have been consulted in appropriate ways. In most cases many of the role-players have been included, but there is still room for improvement. A community development professional might have had a different approach, but the differences between community development and an impact assessment need to be considered.

Social Development should invoke a **sense of process**. It is a dynamic concept in which the notion of growth and change is explicit. This principle is applied in all the case studies. SIA's are about assessing the impact of change on communities, and the fact that it is process driven is clearly stated by Vanclay (2002: 193). If no changes were anticipated, no SIA would be necessary.

Another principle of Social Development is that the process of change is **progressive in nature**. It proclaims faith in the process of human improvement. This principle is also adhered to. The aim of these projects is to increase economic and social progress. This can be debated from various directions. The Gautrain for example, can be seen as only to the benefit of high-income business travellers. This might initially be the case, but as with many progressive things, people will get used to the idea and as systems fall into place and technologies become cheaper, the situation might change. The Yatela Mine brings infrastructure and services to an area where there were previously no facilities. Nuclear power is safer and cleaner. This leads to improvement of people's quality of life. Human improvement goes hand in hand with sustainable development.

The next principle of Social Development is that it is **interventionist**. It rejects the idea that social improvements occur naturally as a result of economic improvement.

Organised efforts are needed to bring about improvements in social welfare. This principle is applied to a certain degree. A SIA is also interventionist. The mitigation measures suggested in the SIA's are organised efforts to improve the social environment. Companies realise that they need to look at sustainable development and that the days of one - dimensional development are over.

Social Development goals are fostered through various strategies that seek, directly or indirectly, to **link social interventions with economic development effort**. This principle is adhered to in an indirect way. In the case studies it was more a case of linking economic development effort with social interventions. There is a difference in focus. The primary focus is on the economic development, with Social Development as an added bonus or project requirement.

Social Development is **concerned with the population as a whole** and it is inclusive or universal in scope. This principle cannot directly be applied to the case studies, as the SIA's done are project-specific and usually only concern a limited section of the population. Any individual can, however, participate in a SIA, whether they are part of the impacted community or not.

Social Development has a **spatial focus** within the context of its universalism and seeks to promote social welfare within specific spatial settings. The population can be seen as anybody in an affected community that is consulted regarding the project. The focus is the input of a person in relationship with his or her community. Community involvement is an important part of a SIA.

The last principle is that the goal of Social Development is to **promote social welfare**. Social welfare means a condition of social well-being that occurs when social problems are satisfactorily managed, social needs are met and social opportunities are created (Midgley, 1995:28). This principle is not adhered to, as the focus of a SIA is not to promote social welfare, but to predict and manage social impacts. Most SIA's do create social opportunities, but it is not the main aim of the projects.

It is clear from the discussions above that Social Development and Social Impact Assessment have a lot in common. The main aim of Social Development is to

harmonise human and economic policies, programmes and development. This implies that economic programmes shouldn't be isolated from those communities directly affected by them. It makes sense for practitioners in the separate fields to join forces. Sometimes the foci are different, but the basic principles are similar. Without ever referring to Social Development, all the SIA's studied adhered to most of the social development principles.

7. Conclusions

The main conclusion that can be drawn from this chapter is that most SIA's are done in only one phase of the project life cycle, namely the design and development phase. Although SIA's are recognised as processes, they are still treated as one-off assessments. No **specific** monitoring programmes are in place for most of the assessments. All the case studies that were investigated adhered mostly to the principles of SIA and IEM, and, also, unintentionally to that of Social Development. The authors of the SIA's tried to take the voice of the public into consideration as much as possible. There were some shortcomings, but as the purpose of this study is not to evaluate the techniques used and the quality of the SIA's, it will not be discussed.

The passive nature of the South African public remains a problem, but in controversial projects the public tends to participate more. In some projects only certain sections of the public participate, and the voices of less empowered people tend not to be heard. SIA practitioners must be aware of this and try to rectify it. In the following chapter more specific conclusions and recommendations with regard to the research study will be made.

Chapter 4

Findings, Conclusions and Recommendations

1. Introduction

This chapter focuses on drawing conclusions based on the findings of the study. Recommendations will be made from the conclusions. In Chapter 2 a literature study investigating the role and place of Social Impact Assessment in the project life cycle was done. The theory and philosophy surrounding SIA were discussed in-depth and the project life cycle was investigated. Finally, the principles of SIA, Integrated Environmental Management and Social Development were spelled out. In Chapter 3 six case studies were analysed and compared to the findings of the literature study.

The aim of the study was to establish the role and place of the SIA in the different phases of the project cycle of any development, with a focus on the planning and decommissioning phases. The aim of the study was achieved through the realisation of the following objectives:

The first objective was to investigate current trends in the practice of SIA's. This objective was achieved through a literature study on Social Impact variables and the SIA process (compare Chapter 2, headings 3.2 and 3.3).

The second objective was to theoretically contextualise phases in a project life cycle. This was achieved in Chapter 2 through a literature study (compare Chapter 2, heading 2).

The third objective was to analyse the SIA process within a project lifecycle. This objective was achieved in Chapter 3 by analysing the case studies (compare Chapter 3, heading 3).

The fourth objective was to determine the role of the SIA in each phase of the project life cycle with a focus on the planning and decommissioning phases. This objective was achieved together with the fifth objective, which was to make recommendations on how SIA's can be integrated within the phases of the project life cycle. These two objectives were achieved by doing a literature study (compare Chapter 2, heading 4).

The final objective was to explore the similarities between Social Impact Assessment, Integrated Environmental Management and Social Development. This objective was achieved by doing a literature study (compare Chapter 2, headings 3.2, 5 and 6) and analysing the case studies against the principles of SIA, IEM and Social Development (compare Chapter 3, headings 4, 5 and 6).

This study was guided by the following research questions:

- What are the current trends in conducting Social Impact Assessments?
- Why is Social Impact Assessment not conducted in all the phases of the Project Life Cycle?
- How should Social Impact Assessment be applied in each phase, with focus on the planning and decommissioning phase?
- What are the similarities between Social Impact Assessment, Integrated Environmental Management and Social Development?

These questions enabled the researcher to reach the objectives of the study.

2. Findings and Conclusions

The first key finding of this study is that Social Impact Assessments are not done in all the phases of the project life cycle. They are predominantly done in the design and development phase and are treated as one-off reports. This practice contradicts what is written in the literature. The Interorganizational Committee (1994:21), Geisler (1993:334) and Vanclay (2002:190) all indicate that SIA should be done in all the

phases of the project life cycle. The most important reason for SIA's not being done in all the phases is lack of resources - money, manpower and expertise. Technical and resource problems such as poor communication, lack of finance, inadequate trained manpower and poor data are detrimental to successful SIA's (Henry, 1990:96).

The conclusion can be made that top management in general has not developed the correct attitude in respect to SIA's. It is unfortunately too often seen as a necessary evil or a public relations exercise, and not a sustainability tool. A mind shift is taking place, but it will take time for managers to acknowledge people as their most valuable resource. There is an "asocietal mentality" - an attitude that humans do not count - amongst management (Burdge & Vanclay, 1998:270). It is clear that many people do not understand the social processes and social scientific theories and methodologies that differ from those in the physical sciences. This researcher agrees with Burdge and Vanclay (1998:270) and Friesma & Culhane (1976:343) that the implications are:

- A failure to accept the need for a SIA in the first place. All development is good and there are no social consequences of development.
- There is no recognition of the need for special skills or expertise to assess social impacts.
- There is no understanding of the nature of potential impacts or community concerns. This leads to SIA's being little more than primitive demographic and fiscal impact assessments.
- People not familiar with SIA's have difficulty in understanding the use and integration of public involvement in the SIA process.
- There is a lack of understanding about how much time and money a thorough SIA requires.
- There is a lack of understanding about, and often disagreement with, the results of SIA studies.
- SIA's and EIA's are conducted in a very complex stakeholder network and could be easily politicised.
- Social sciences are mistakenly compared with physical sciences.
- There is a complete lack of recognition for the complexity and heterogeneity of society and how the impact of development benefits or impairs different components of society in different ways.

- There is more focus on measurable socio-economic issues.

The next key finding is that the legal mandate for SIA's is not clear enough. The conclusion is that unless SIA's become legally enforced, chances remain slim that it will be widely used. There is still an attitude that all development is good and progressive. There is a need to think of rewards, not only in monetary terms, but also in social and community terms.

The third finding is that there are no guidelines or standards against which SIA's can be measured. The quality of SIA's varies, as does the approach. There is little evaluation of SIA reports. Agencies receiving SIA reports seldom take the time to determine the validity and reliability of the contents of these reports (Burdge & Vanclay, 1998:269).

Some socio-economic or population studies are presented as SIA's. This leads to enormous gaps in the data leading to misrepresentation. Since there are no guidelines it is difficult to assess quality and comprehensiveness (Burdge & Vanclay, 1998:270). The conclusion is that the quality and validity of each SIA is in the eye of the beholder. Rees in Geisler (1993:332) states that unless SIA's are replicated like an experiment over time, they will be conducted on a reactive, project-by-project, short-term basis of limited value to sustainable development. If the public wants to appeal there is no official benchmark that they can use.

The fourth finding is that a major shortcoming in SIA reports is the lack of specific monitoring plans. Generally the SIA refers to a monitoring plan, but it is not specified, or it is recommended that the social monitoring form part of the Environmental Management Plan as required by Environmental Impact Assessments. It can be concluded that this is not sufficient since social monitoring is watered down to mere tokenism.

Monitoring plans are particularly important for projects and programmes that lack detailed information, have a high number of variables or a high degree of uncertainty. It should spell out the nature and extent of additional steps that should take place when unanticipated impacts or impacts larger than the projections occur (Modak & Biswas; 1999:265).

A real problem is the practical applicability of social monitoring. It is often expensive and not straightforward. Methods of data collection are very different from those used in the biophysical environment, and are often not understood by physical scientists, engineers and those who foot the bills. Social monitoring involves a multi-pronged approach to data gathering using both quantitative and qualitative methods (Christchurch City Council, 1997).

The fifth finding is that a SIA is a process, and not a one off assessment (Vanclay, 2002: 193). The conclusion made from this finding can be that SIA might not be the right name for the process. Environmental Impact Assessment is a single assessment, followed by Environmental Management Plans that includes monitoring and measuring, audits and other environmental management tools. It might be a good idea to develop Social Impact Management Plans, which use similar tools.

A major step forward is SA8000, Social Accountability International's first social accountability system. It is a way for retailers, brand companies, suppliers and other organisations to maintain just and decent working conditions throughout the supply chain (Anon, 2003). Although it is not directly applied to SIA's in South Africa yet, it is a move in the right direction and can potentially be to SIA what ISO14001 - the International Standards Organization's guidelines for environmental management systems - is to the EIA.

The sixth finding is that the SIA does not necessarily belong with Environmental Management, and it could fit comfortably within a Social Development framework as well. It remains debatable, but it can be concluded that the principles of SIA (IAIA, 2003), Social Development (Midgley, 1995: 26-28) and Integrated Environmental Management (Department of Environmental Affairs and Tourism, 1992:5) are very similar and could easily be integrated. It makes sense for strategies with similar principles to work together instead of continuously reinventing the wheel and duplicating work.

The seventh finding is that the public is not educated about the role of SIA's, the existence of this tool and the role that they have to play. Practitioners often limit participation to letters and hearings (Finsterbusch, 1995:215). The greatest

environmental challenge in South Africa is creating environmental awareness within the public domain and educating them about the environment and the role that they can play. The conclusion that can be made is that for the voice of the public to be heard, it must be utilised. People who do not know their rights cannot protect them. One of the principles of SIA's is empowerment of people (IAIA, 2003). Empowerment leads to implementation of the correct structures to create and sustain a safe and healthy environment.

The final finding is that the SIA is a tool that can be used in a broader context than the Environmental Management field. The answer might be for SIA practitioners to broaden their horizons and not limit themselves to viewing SIA's as only part of EIA's. In conclusion it can be said that if the SIA can develop as an independent tool and recognised discipline, it might be able to achieve the status needed. The SIA can provide valuable information and input that can be put to use in numerous disciplines, in biophysical as well as social sciences.

3. Recommendations

The following recommendations can be made for application and further investigation:

- Social Impact Assessments should be conducted throughout the project life cycle. SIA's must be initiated as early in the planning phase as possible.
- Social Monitoring plans should be explicit and specific.
- SIA reports can be used as a baseline for monitoring.
- SIA should be legally enforced.
- The Department of Environmental Affairs and Tourism should write guidelines for SIA's in conjunction with the Department of Social Development. It is important that there is one recognised standard for SIA's.
- SIA practitioners should be exposed to the Social Development approach. There are a lot of commonalities between SIA's and Social Development and the two could enhance each other.
- The public should be educated and empowered to take part in processes directly affecting their lives.
- SIA's can be used more widely than only in Environmental Management. It is a flexible tool with many uses.
- Future research on the integration of the SIA approach with the Social Development approach could be done. Such research could lead to utilising the Department of Social Development to review the SIA reports, since there is a shortage of expertise in the Department Of Environmental Affairs and Tourism.
- Future research on the methodology used to do SIA's can make a valuable contribution to the SIA field. There is a lot of information available on the philosophy of the SIA, but a lack of practical guidelines.

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