

THE ENVIRONMENTAL IMPLICATIONS OF THE ETHICAL TENETS OF POLICIES

Ena van Rensburg

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Supervisors: Prof J P Hattingh, Department of Philosophy, University of Stellenbosch

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DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Date: 22/11/99

ABSTRACT

The study on the environmental implications of the ethical tenets of policies investigated the research thesis that it is essential to reveal the ethical dimensions of policies in order to adequately appraise the environmental implications of their further elaboration in the form of strategies and plans and their operationalisation in the form of programmes and projects. The substantive analyses of the study focussed on three premises that support the research thesis.

The first premise claims that the current theory and practice of environmental assessment (EA) are inadequate for preventing adverse environmental consequences of development and supporting the achievement of sustainable development. Comprehensive overviews of the two EA instruments of environmental impact assessment (EIA) and strategic environmental assessment (SEA) found many deficiencies in their application as well as limitations in their conceptualisation and philosophical bases, thus confirming premise 1. Premise 2 contends that adverse environmental impacts of development activities at lower strategic and implementation levels cannot be effectively contained unless the policy frameworks which provide their strategic direction have been fully appraised for their environmental implications. This contention was confirmed through the development of a two-pronged argument that (1) policies predetermine the environmental impact of development activities at the implementation level by providing strategic direction to development planning, and (2) SEA is an inadequate instrument for effectively analysing the environmental consequences of policies, given its inadequacy to deal with values that underlie policy approaches.

The third main study premise states that the ethical dimensions of public policies have specific relevance for the potential environmental implications of these policies. As a first step in the argument developed to confirm this premise, a review of policy analysis and policy making proved that these pursuits are inherently normative. Thereafter the nature of morality was explored, revealing that morality consists of three axes, i.e. the first level of moral obligations, or what is right or wrong to do; the second of moral motives, or ethical notions about what meaningful human life entails, and the third of moral sources, or ethical notions about that which inspires respect and allegiance. It was further shown that all human actions are rooted in such ethical notions. Thus, it was argued, policy analysis and policy making also employ ethical notions as the justification for choosing specific policy goals and the means for achieving these goals.

Conceptions about a meaningful human life or the good life are primarily used for this purpose. The fact that these underlying ethical tenets of policies are normally not explicitly voiced or debated in the policy formulation process necessitated an investigation into reasons for articulating them. It was found that value analysis could assist in evaluating the appropriateness of policies to their social, cultural and political contexts, thereby improving their effectiveness. Next, the two key concepts of quality of life and sustainable development that drive the current development paradigm were analysed in order to prove that they reflect rich conceptions of the good life. Further analysis of these concepts showed that they are inextricably linked to environmental issues. This led to the conclusion that their operationalisation through policy implementation would logically hold environmental consequences.

The main finding of the study that the research thesis has been verified, is based on the confirmation of all three study premises described above. An explication of the theoretical and practical follow-up work that should be undertaken on the basis of the research thesis motivated the subsequent conclusion that the verification of the research thesis has generated an hypothesis for further empirical research.

On the basis of the findings, recommendations were made regarding the development and refinement of an EA system embedded in a comprehensive environmental planning and resource management regime that forms one component of a holistic development approach based on sustainability. It was further recommended that the proposed revised EA system should require SEA of policies as the logical first step in EA, from where the results should cascade to EA at lower tiers of development. In addition, SEA procedures should be revised to develop differentiated framework procedures for policies, plans and programmes respectively. The procedure for policy-SEA should incorporate an ethical analysis component in order to give practical effect to the main conclusion of this study. A limited number of recommendations regarding EA application were made, of which the most important is that EA practitioners should present interpretations of EA study results to decision makers in order to ensure that environmental factors receive proper weighting during decision making about development activities. Lastly, a proposal was made that an information, education and communication programme should be designed and implemented with the aim of creating an atmosphere conducive to the acceptance of a revised EA system.

OPSOMMING

Die studie oor die omgewingsimplikasies van die etiese beginsels van beleide het die navorsingstese ondersoek dat dit noodsaaklik is om die etiese dimensies van beleide te ontbloot ten einde die omgewingsimplikasies van hulle verdere uitbreiding in die vorm van strategieë en planne en hulle operasionalisering in the vorm van programme en projekte te beoordeel. Die substantiewe analyses van die studie het op drie stellings wat die navorsingstese ondersteun, gekonsentreer.

Die eerste stelling beweer dat die huidige teorie en praktyk van omgewingsevaluering (OE) onvoldoende is om nadelige omgewingsgevolge van ontwikkeling te voorkom en die bereiking van volhoubare ontwikkeling te ondersteun. Omvattende oorsigte van die twee OE metodes omgewingsimpakevaluering (OIE) en strategiese impakevaluering (SIE) het vele tekortkominge in hulle toepassing gevind asook beperkinge in hulle konseptualisering en filosofiese begronding. Op grond hiervan is stelling 1 bevestig. Stelling 2 voer aan dat nadelige omgewingsimpakte van ontwikkelingsaktiwiteite op laer strategiese en implementeringsvlakke nie doeltreffend in bedwang gehou kan word tensy die beleidsraamwerke wat hulle strategiese rigting bepaal, volledig geëvalueer word vir hulle omgewingsimplikasies nie. Die stelling is bevestig deur die ontwikkeling van 'n argument bestaande uit twee afdelings, naamlik dat (1) beleid die omgewingsimpak van ontwikkelingsaktiwiteite op die implementeringsvlak vooraf bepaal deur middel van die strategiese rigting wat dit voorsien, en (2) SIE nie 'n voldoende metode is om die omgewingsgevolge van beleide doeltreffend te analiseer nie, omdat dit nie geskik is om die waardes onderliggend aan beleidsbenaderings te hanteer nie.

Die derde hoofstelling van die studie beweer dat die etiese dimensies van openbare beleide beslis verband hou met die potensiële omgewingsimplikasies van hierdie beleide. As 'n eerste stap in die argument om hierdie stelling te bevestig, het 'n oorsig van beleidsanalise en beleidsmaking bewys dat hierdie ondernemings in wese normatief is. Daarna is die aard van moraliteit ondersoek. Daar is bevind dat moraliteit om drie spille wentel, naamlik die eerste vlak van morele verpligtinge, of wat reg of verkeed is om te doen; die tweede van morele motiewe, of etiese idees van wat betekenisvolle menslike lewe behels, en die derde van morele bronne, of etiese idees oor dit wat respek en trou afdwing. Alle menslike optrede is gegrond op sulke etiese idees. Daar is dus geredeneer dat beleidsanalise en beleidsmaking ook etiese idees aanwend as regverdiging vir die keuse van spesifieke beleidsdoelstellings en die middele om hierdie doelstellings te bereik. Idees

oor 'n betekenisvolle menslike lewe of die goeie lewe word primêr vir hierdie doel gebruik. Die feit dat hierdie onderliggende etiese beginsels nie normaalweg eksplisiet uitgespreek of gedebatteer word gedurende die beleidsformuleringsproses nie, het 'n ondersoek na redes om hulle te verwoord, genoodsaak. Daar is bevind dat waarde-analise kan help om die toepaslikheid van beleide vir hulle sosiale, kulturele en politieke kontekste te evalueer, wat die doeltreffendheid van beleid bevorder. Vervolgens is die twee sleutelkonsepte lewenskwaliteit en volhoubare ontwikkeling wat die huidige ontwikkelingsparadigma inspireer, geanaliseer ten einde te bewys dat hulle diep opvattinge oor die goeie lewe weerspieël. Verdere analise van hierdie konsepte het gedemonstreer dat hulle onlosmaaklik verweef is met omgewingsake. Dit het aanleiding gegee tot die gevolgtrekking dat hul operasionalisering deur middel van beleidsimplementering noodwendig omgewingsgevolge sal inhou.

Die hoofgevolgtrekking van die studie dat die navorsingstese geverifieer is, berus op die bevestiging van al drie die studiestellings. 'n Uiteensetting van die teoretiese en praktiese opvolgwerk wat op grond van die navorsingstese onderneem kan word, het die verdere gevolgtrekking gemotiveer dat die staving van die navorsingstese 'n hipotese vir empiriese navorsing genereer het.

Op grond van die bevindinge is aanbevelings gemaak oor die ontwikkeling en verfyning van 'n OE-stelsel wat vervat is in 'n omvattende omgewingsbeplannings- en hulpbronbestuursbestel as een komponent van 'n holistiese ontwikkelingsbenadering gegrond op volhoubaarheid. Daar is ook aanbeveel dat die voorgestelde hersiene OE-stelsel SIE van beleide as die logiese eerste stap in OE moet vereis, waarna die resultate in OE op laer vlakke van ontwikkeling ingevoer moet word. Verder moet SIE-prosedures hersien word deur gedifferensieerde raamwerkprosedures vir, onderskeidelik, beleid, planne en programme te ontwikkel. Die prosedure vir SIE van beleid behoort 'n etiese analise-komponent in te sluit wat praktiese beslag gee aan die hoofgevolgtrekking van hierdie studie. 'n Beperkte aantal aanbevelings is ten opsigte van die praktiese toepassing van OE gemaak. Hiervan is die belangrikste dat OE-praktisyns geïnterpreteerde OE-studieresultate aan besluitnemers moet voorlê ten einde te verseker dat omgewingsfaktore behoorlike gewig dra tydens besluitneming oor ontwikkelingsaktiwiteite. Laastens is voorgestel dat 'n inligtings-, opvoedings- en kommunikasieprogram ontwikkel en implementeer moet word sodat 'n atmosfeer wat die aanvaarding van 'n hersiene OE-stelsel sal ondersteun, geskep kan word.

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THE ENVIRONMENTAL IMPLICATIONS OF THE ETHICAL TENETS OF POLICIES

TABLE OF CONTENTS

CHAPTER	PAGE
1 Introduction - Problem statement	
1.1 Background	1
1.2 Research problem	4
1.3 Points of departure of and approach to the study	7
Notes	10
2 Environmental impact assessment	
2.1 Introduction	12
2.2 Description	12
2.2.1 Definition and Purpose	12
2.2.2 Historical development	14
2.2.3 The EIA process and procedure	16
2.3 Strengths	27
2.4 Limitations and weaknesses	31
2.4.1 EIA practice	31
2.4.2 EIA scope	36
2.4.3 Conceptualisation and philosophical base	37
2.5 Conclusion	43
Notes	47
3 Strategic environmental assessment	
3.1 Introduction	57
3.2 Description	57
3.2.1 Definition and Purpose	57
3.2.2 Historical development	60
3.2.3 The SEA process and procedures	63
3.3 Strengths	73
3.4 Limitations and weaknesses	76
3.5 Conclusion	84
Notes	87

4 Policy making from an ethical perspective

4.1	Introduction	91
4.2	Need for assessing the environmental implications of policy approaches	91
4.3	Policy making in practice	98
4.4	Normative nature of policy analysis and policy making	104
4.5	Ethical dimensions of policies	109
4.6	Articulating ethical policy dimensions	118
4.7	Environmental implications of ethical policy dimensions	124
4.8	Conclusion	132
	Notes	133

5 Conclusion - Findings and recommendations

5.1	Introduction	137
5.2	Findings regarding environmental assessment	138
5.3	Findings regarding the appraisal of environmental consequences of policies as a prerequisite for effective EA at all levels of development	149
5.4	Findings regarding the relevance of the ethical dimensions of policies for their potential environmental implications	151
5.5	Main finding: verification of the main research thesis	158
5.6	Unexplored issues	160
5.7	Recommendations	162
5.7.1	Main recommendations of the study	163
5.7.2	Recommendations regarding the development of EA systems	163
5.7.3	Recommendations regarding the development of SEA	166
5.7.4	Recommendations regarding EA application	169
5.7.5	Recommendations regarding a conducive context for a revised EA system	172
5.8	Final word	175
	Notes	175

	Bibliography	176
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CHAPTER 1

INTRODUCTION - PROBLEM STATEMENT

1.1 Background

The latter half of the 20th century has been characterised by a growing awareness of the complexity of the world. This happened in reaction to a gradual realisation that the ideal of progress embodied in modernity was elusive, even unattainable.¹

The spirit of the Enlightenment era that emerged in Western culture during the 17th century focussed strongly on the belief that human intellectual reflection and rational power could uncover the ultimate truths about the world. Modernity arose as a construction based on the Enlightenment beliefs. One of the key features of modernity is its focus on instrumental reason and its resultant adherence to the ideal of progress - progress is possible, it is good in itself and it will eventually succeed in resolving human suffering and want. The belief in science as the major vehicle for achieving progress is firmly rooted in modernity. Modern economic theory developed as one strand of the pursuit of progress. Initially it was believed that capitalism will serve to involve all nations and people in economic activity that cannot fail to raise standards of living and thus to incorporate all people in the inevitable advance of human progress.

The Romantic backlash of the 18th and 19th centuries against industrialisation and urbanisation was also directed against the strong rationalism and instrumentalism of the Enlightenment; Romanticism again focussed attention on the value of nature and wished to re-establish human harmony with nature. Thus notions such as individualism, personal fulfilment and expressivity were introduced in opposition to the ideal of disengaged reason advanced by Enlightenment. Derivatives of the ideals of the Enlightenment and Romanticism co-exist alongside one another in the current era. Thus there is still a strong belief in the powers of rationality and instrumentalism to ensure human progress, especially through the achievements of scientific research and technology development. At the same time, there is a strong focus on individual interpretations of personal growth and enrichment and thus on diversity and pluralism. Many conflicts in modern debates, such as the opposed approaches in environmental ethics of

anthropocentrism and ecocentrism, can be better understood once their linkages to Enlightenment and Romantic ideals have been exposed.

In the second half of the 20th century, especially after the devastation of World War II, the general belief in human progress began to fade. It became less obvious that humankind was on a well laid path of advancement to an ultimate sublime end state. Although the development field is still to a large extent motivated by the belief that human suffering should be reduced and that it is possible to improve people's lives, this belief has been tempered by ongoing failures and human-induced fiascos in the name of development. Thus there is now a greater sense of humility and recognition of human fallibility in development efforts.

Within this general intellectual climate of the last five decades, the environment has gained considerable status as an issue on the Western public agenda and in the global political arena. There has been a growing awareness that the Western model of economics does not necessarily guarantee progress. Even though the fall of Communism seems to indicate that capitalism has won the battle between the two opposing economic models, many myths inherent in capitalism as reigning ideology in both the economic and political fields have been debunked. One classic example is the belief in the so-called trickle-down effect of economic growth; experience over the past three decades has proved that economic growth does not solve distributional inequalities and that the rich can and have become richer while the poor have become poorer and more. The growing disenchantment with the power of capitalism to ensure improved lives for all has enabled the emerging focus on environmental concerns to grow in strength. Thus it became possible within the context of Western intellectual thinking to question the implications of economic activity for the environment. This acceptance of environmental concerns as legitimate and not only the domain of a few lingering Romantics led to the development of an environmental focus by governments of, initially, mainly developed countries. Government intervention in order to ensure that environmental concerns receive adequate attention became accepted practice from the 1960s onwards.

Environmental assessment (EA)² developed as a specific instrument for evaluating the environmental impact of development activities. It was formally introduced in 1969 through the

promulgation of the United States National Environmental Policy Act, from where it spread rapidly to most countries of the developed world and later to the rest of the world. Currently two instruments for EA are widely recognised, namely environmental impact assessment (EIA) of projects and strategic environmental impact assessment (SEA) of policies, plans and programmes. The approach to and procedures for both are basically similar, except that EIA is applied to individual projects while SEA is intended as the environmental assessment of the environmental impacts and their consequences of planned development activities at higher strategic levels. The development of the theory and practical application of EIA preceded that of SEA; even though some of the initial prescriptions of formal EIA systems included reference to its application to proposed development activities other than discrete development projects, it was rarely attempted to apply the procedure practically to development programmes, plans or policies. During the 1970s it was first proposed that environmental assessment should be applied as a tiered approach, starting at the strategic level of national level policies from where it should cascade to the following strategic planning levels of, firstly, regional plans and thereafter to the lowest strategic level of local programmes for implementation of policies and plans. The findings regarding environmental impacts and consequences during assessment of the strategic planning levels should be utilised to judge the necessity for EIA of individual projects which are undertaken as concrete implementation of strategic planning. Although these proposals were widely accepted and served as basis for the theoretical development of SEA, little practical application of the approach followed, as will be illustrated in the substantive chapters of this study.

Since its inception EIA has grown into a fully fledged environmental instrument of considerable force. A vast literature on its theory and practical application has developed, especially in relation to technical aspects. For long the practice of EIA has been dominated by natural scientists and the engineering profession. Although this is to a large extent still the case, there has been some recognition of the role of social scientists, especially in relation to the incorporation of social impacts into EIA and the involvement of the public in the process. Nevertheless, EIA is still characterised by its technical nature and its focus on the physical elements of development activities.

Since especially the 1980s there has been an increased focus on evaluation of the effectiveness of

EA. More and more concerns were raised that its potential for preventing environmental degradation was not being realised in practice. The research problem addressed in this study is commensurate with these concerns.

1.2 Research problem

The main research problem to be investigated in this study is whether it is essential to reveal the ethical dimensions of policies in order to adequately appraise the environmental implications that can be expected to follow from their further elaboration in the form of strategies and plans and their operationalisation in the form of programmes and projects. Two closely related problems gave rise to the formulation of this research problem. The first relates to the inadequacies of both the theoretical approach to and the practical implementation of EA; the second relates to the fact that policies that do not show an obvious or direct link with the environment are hardly ever analysed for their possible environmental implications, even though their conceptual bases do indeed in most cases imply that their eventual implementation will affect the environment.

Despite the fact that EA was introduced with the expressed purpose of ensuring that environmental considerations are taken into account in decisions about development proposals, its widespread use over the past three decades has not succeeded in preventing environmentally degrading developments from occurring. It is not at all clear that EA results are consistently used in final decision making on approval of proposals for development activities, raising serious doubts as to the actual influence of EA on such decisions. This situation persists even though environmental issues have gained much currency during the same period of time, especially in relation to global shifts in perceptions regarding the interrelationships of the economy and the environment as expressed in a flurry of international activities culminating in the global acceptance of sustainable development as a constitutive concept in the environmental field during the 1992 United Nations Conference on the Environment and Development. What the increased awareness of the centrality of the environment in development issues has generated, is an intensification of analyses of the conceptual core of EA and its relation to wider environmental planning and resource management issues.

During the comprehensive literature study on EIA and SEA undertaken in preparation for this study, it was found that project-level EIA is limited in its scope, failing to effectively predict cumulative and synergistic environmental impacts in particular. Also, many development activities that hold potentially adverse environmental consequences are not subject to EIA. Environmental impact cannot be adequately appraised only at the project level. In addition, the conceptual basis of EIA is flawed in that it is not properly integrated into environmental planning and resource management regimes, and not explicitly linked to sustainability goals.

The environmental appraisal of policies, plans and programmes, i.e. SEA, has evolved in order to counteract the limitations of EIA, on the one hand, and on the other to support the practical achievement of sustainable development. However, much of the literature on SEA is still theoretical and many of its concepts and methodologies are still being debated. SEA case studies deal mainly with sectoral and regional plans and programmes. The application of SEA to the policy level is still very limited. Viable solutions to problems such as confidentiality of policy development which renders public consultation sensitive and the incremental nature of policy decisions which means that definitive decision points in the process are often absent, have not yet been established. The question of practically integrating SEA into strategies for sustainable development has also not been resolved.

The issues of values and philosophical tenets underpinning development approaches from the strategic levels to the practical implementation level of discrete projects are not handled in any depth in either EIA or SEA. Because of its technical nature and scientifically predictive intent, EA as currently applied is not an appropriate tool for revealing the value systems and philosophical approaches underpinning development activities.

Thus EIA, although widely practised at project level, and SEA, although receiving much attention as potential instrument for appraising the environmental impacts of policies, plans and programmes, are not adequate to prevent adverse environmental consequences of development and support the achievement of sustainable development. This is one of the main contentions that this study set out to verify.

The second problem that served as motivation for the formulation of the main research problem addressed in this study relates to the general lack of consideration of the potential environmental implications of public policies. The current development paradigm³ is couched in terms of internationally accepted language focussing on sustainable development and improvement in quality of life. Most public policies also currently use these terms as justification for their approaches. However, the linkages with the environment of these concepts are rarely explicitly acknowledged in public policies not obviously related to the environment and even less rarely analysed in full. Also, although the practice of strategic environmental assessment (SEA) is growing, it is not yet generally applied to policies, despite the fact that policies create frameworks for the development of plans and strategies, which in turn form the basis for programmes and projects. Another main contention elaborated in this study is therefore that, unless a policy framework is fully appraised for its environmental implications, the resultant lower tiers of development activities cannot be expected to avoid adverse environmental impacts.

The reason why the main research problem has been formulated and researched within the context of environmental ethics is that ethical analysis focusses on values and ethical approaches and principles that underpin human activity. Although the ethical dimension is rarely articulated, it is in effect constitutive of all human thinking and action, including that of policy analysis, formulation and implementation. Thus the perspective of environmental ethics enables the researcher to develop the contention that the values which reflect the ethical dimensions that underpin public policies have to be relevant in terms of the potential environmental implications of those policies.

The main contentions mentioned above form the three premises that were studied as steps in the process leading to the verification of the thesis embodied in the main research problem. The three premises are:

- (1) That the current theory and practice of environmental assessment are inadequate for preventing adverse environmental consequences of development and supporting the achievement of sustainable development;
- (2) that adverse environmental impacts of development activities at lower strategic and implementation levels cannot be effectively contained unless the policy frameworks which

provide their strategic direction have been fully appraised for their environmental implications;

- (3) that the ethical dimensions of public policies have specific relevance for the potential environmental implications of these policies.

On the basis of these three premises the research theses is proposed that it is essential to reveal the ethical dimensions of policies in order to adequately appraise the environmental implications of their further elaboration in the form of strategies and plans and their operationalisation in the form of programmes and projects.

1.3 Points of departure and approach to the study

In relation to points of departure used in this study it is necessary to clarify three main points, i.e. the sense in which the term environment is used; the approach to ethics in general and to environmental ethics in particular to which the student adheres, and the ultimate purpose for which the study has been undertaken.

The term environment is used not to signify only the natural environment in the narrow sense or, in an even narrower popular use of the term, only wilderness areas and/or wildlife as implied by the way in which the terms nature and the environment are often used synonymously. Rather, the environment refers to all natural and humanmade surroundings of all living and non-living things. This conception of the environment is in line with that commonly accepted in the EA literature as described in subsection 2.2.1 of Chapter 2.

The approach to ethics adhered to in this study is similarly broad. Ethics does not only refer to rules and principles for moral action in the strict sense, nor to sterile debates about the nature of morality and human obligations for moral action. Rather, ethics is seen as the motivation that directs all human action. Thus ethics is not limited to the spiritual or religious level, but is approached as intertwined with all human activities. In this sense, a person can work morally or amorally as a professional, can act morally or immorally in human relations and can live morally or immorally in her relations to the environment.

The specialised field of environmental ethics is approached in the same way as relating to people's relations to the environment, environment here used in the sense described above. Thus the focus is not on academic debates in environmental ethics such as the ongoing controversies over anthropocentrism and ecocentrism, over the intrinsic rights of rocks or whether the utilitarian approach or the deontological approach should supply the justification for intergenerational equity. Environmental ethics is seen as relevant to all human actions as they affect the environment - again, the environment in the broader sense.

This leads directly into the third point of departure, namely about the ultimate purpose of this study. In line with the very practical approach to environmental ethics explained above, the purpose of this study is also very practical, even though the content focusses mainly on the theoretical level. The purpose is to clarify certain theoretical contentions in order to, on the one hand, clearly articulate them and, on the other, to provide a verified basis for practical use. Thus it is hoped that readers of this study will find indications for follow-up in their practical situations, either as EA practitioners or as policy makers and planners. The expected relevance of the research can be deduced from various recommendations contained in Chapter 5.

The research approach followed in this study has been that of undertaking literature studies and building philosophical arguments to analyse the research problem. The conclusion of the study is thus open to testing through empirical research; recommendations in this regard are included in the last chapter.

The main research thesis was tested through first testing each of the premises stated in section 1.2. Comprehensive reviews of a substantial body of literature on EIA and SEA were undertaken in order to verify the first contention that the current theory and practice of environmental assessment are not adequate to prevent adverse environmental consequences of development and support the achievement of sustainable development. Thereafter a reasoned argument was developed to prove that it is essential to submit policy frameworks to thorough EA as a prerequisite for adequately assessing the environmental implications of both the lower strategic planning levels and the implementation levels, thus verifying the second premise.

The argument to prove that the values that underpin public policies have to be relevant in terms of the potential environmental implications of those policies (the third premise) entailed more steps than the preceding ones. This argument commenced with a critique of the standard practice of policy analysis and policy making in order to show that the normative nature of these pursuits is often not recognised and/or articulated. However, further perusal of literature relating to the policy analysis field revealed that policy analysis and policy making are unavoidably and inherently value-laden rather than adhering to the value-neutrality and so-called objectivity often held up as the ideal.

Once the normative nature of policy making has been established, it was necessary to turn to the ethical content of policies in order to prove that this does indeed hold environmental implications. The nature of morality had to be analysed to show that public policies are, in fact, motivated by ethical notions. This analysis showed that morality entails three axes, namely that of moral obligations, i.e. what is right or wrong to do; that of moral motives, i.e. a rich conception of the meaning of life or the essence of the good life, and moral sources, i.e. the source of the good or that which inspires respect and allegiance. It is especially notions of the good life that are generally employed as justification for public policies without these necessarily being articulating or recognised as ethical dimensions. The next step in the argument therefore was to motivate that it is essential to clearly articulate the conceptions of the good life used as moral justification for public policy approaches in order to analyse their appropriateness in particular social, political and cultural contexts. Thus value analysis is essential for effective policy analysis and formulation. Lastly, the conceptions of the good life underpinning the current development paradigm were explicated and their connections with environmental consequences highlighted, leading to the conclusion that these conceptions logically hold inherent environmental implications.

The testing of the three main premises culminates in verifying the validity of the central thesis of this study, namely that effective appraisal of the environmental implications at the policy level requires thorough analysis of the ethical dimensions of policies.

The organisation of the content of this minithesis follows the pattern set out above. Chapter 2, entitled environmental impact assessment, contains the comprehensive overview of EIA theory

and its practical application. The overview is presented in three sections, i.e. description of EIA; strengths, and limitations and weaknesses. The latter section analyses three areas of limitations, i.e. weaknesses regarding EIA application in practice; constraints relating to the limited scope of EIA, and weaknesses in its basic conceptualisation and philosophical approach.

Chapter 3 follows the same pattern as the preceding chapter, focussing on SEA. SEA is described in the first substantive section of the chapter, followed by a section devoted to its main strengths and a section in which its limitations and weaknesses are discussed.

Chapter 4, entitled policy making from an ethical perspective, starts off with a motivation for the need to analyse the environmental implications of policy approaches as a logical starting point for the appraisal of environmental impact. This is followed by an analysis of the standard practice of policy making, especially its limited articulation of values and world views that underpin policy approaches, and a discussion of the inherently normative nature of policy analysis and policy making. In the next section an analysis of the nature of morality shows that each policy approach has some conception of the good life as its driving force. Thereafter, the articulation of the ethical dimension of policies and value analysis of public policies are motivated. The last substantive section of the chapter provides proof that the conceptions of the good life justifying current policy approaches logically imply environmental effects that need to be considered. The concluding section of Chapter 4 contains a motivation for revealing this ethical dimension of public policies as a prerequisite for assessing their environmental implications.

The concluding chapter (Chapter 5) contains a reiteration and elaboration of the central findings of the study and recommendations on follow-up actions and further research. The main finding is that the key thesis of this study has been adequately proved and that a hypothesis has thus been generated for further empirical research.

NOTES

1. The discussion of the Western intellectual heritage in this section is based on various sources perused during the course of the structured lecture series for the degree of which this minithesis is the culmination. Sources that have to be specifically acknowledged here are Bauman (1992) and Taylor (1989) as well as the lectures presented by Dr P Cilliers and Prof J P Hattingh, both attached to the Department of Philosophy of the University of Stellenbosch.

2. In this study, the term environmental assessment (EA) is used to signify the instruments and procedures used to evaluate the environmental implications of development activities in the broad sense; the term environmental impact assessment (EIA) refers specifically to environmental assessment of projects, while the term strategic environmental assessment (SEA) is used to describe environmental assessment of development activities at the various strategic levels of policies, plans and programmes (PPP).
3. The term paradigm is explained in the dictionary as “[e]xample or pattern, [especially] of inflexion of noun, verb, etc.” (Sykes, 1976:798). In more popular use, the term has evolved to refer to a way of viewing aspects of the world or to an approach that reflects such a (partial) world view. Thus the term is often used together with another qualifying term such as in its use here, where “development paradigm” signifies an approach in the development field characterised by a particular way of thinking about development. This use of the term implies that different approaches to the particular field is possible, and that changes in these approaches occur over time. For example, shifts have occurred in the development field over time, in which the basic conceptualisation of what development means, how it should be approached and what its results should be have changed. More details about the current development paradigm are discussed in section 4.7 of Chapter 4.

While the influence of Kuhn (1970) with regard to the evolution of the use of the term paradigm is recognised, the term is used in this study in the looser sense than that originally proposed by him, given the fact that Kuhn himself later refined his original use of the term. Kuhn first published *The structure of scientific revolutions* in 1962. He specifically employed the term paradigm in the philosophy of science to mean “... universally recognised scientific achievements that for a time provide model problems and solutions to a community of practitioners” (Kuhn, 1970:viii) that serves as “... an object for further articulation and specification under new or more stringent conditions” (Kuhn, 1970:23). Kuhn’s conception of the concept paradigm as constitutive of scientific communities provided the basis for its use in the sense described in the preceding paragraph. However, in a postscript dated 1969, Kuhn acknowledged that “[s]everal of the key difficulties of my original text cluster about the concept of a paradigm ...” and suggested “... the desirability of disentangling that concept from the notion of a scientific community ...” (Kuhn, 1970:174). In Chapter 4, the concept “frame of reference” is used to describe the basic approach to their profession shared by a group of scientists.

CHAPTER 2

ENVIRONMENTAL IMPACT ASSESSMENT

2.1 Introduction

This chapter consists of a comprehensive overview of environmental impact assessment (EIA) theory and its practical application. The first substantive section (section 2.2) contains a description of EIA. In subsection 2.1.1 the definition and purpose of EIA are described, followed by an overview of its historical development in subsection 2.2.2. The EIA process and procedures are discussed in subsection 2.2.3 as a series of steps or activities. Detailed attention is devoted to EIA methodology; the consideration of alternative proposals; impact evaluation and prediction; mitigation measures; the formal EIA document or environmental impact statement; decision making in EIA; monitoring, and public participation.

Section 2.3 contains a discussion of the main strengths of EIA, while its limitations and weaknesses are analysed in section 2.4. Limitations and weaknesses regarding EIA practice receive attention in subsection 2.4.1; in subsection 2.4.2 the focus is on constraints relating to the limited scope of EIA, and problems concerning the conceptualisation and philosophical base of EIA are discussed in subsection 2.4.3. Finally, the main findings arising from the overview of EIA theory and practice are presented in section 2.5 as conclusion to the chapter.

2.2 Description

2.2.1 Definition and Purpose

There seems to be no one precise definition of EIA on which there is general agreement (Barrow, 1997:1). Rather than quoting various definitions or selecting one as representative of the many, an attempt has been made to identify the common elements from definitions.¹ EIA entails :

- a systematic or structured process or approach;
- the identification, prediction and interpretation or evaluation of potential impacts or consequences of human activities on the environment;

- the use of the generated information in decision making regarding the planning, design, authorisation and implementation of the proposed activities;
- the incorporation of mitigation measures into the design and implementation of the proposed activities in order to ensure that adverse environmental impacts are minimised (Barret & Thérivel, 1991:2; Biswas & Geping, 1987:191; Bisset, 1996:1; Canter, 1996:2; Erickson, 1994:3; Goodland et al., 1996:6; Lee, 1989:3; Sheate, 1996:25; Wood, 1995:212).

The emerging consensus is towards a conception of the environment as the totality of the surroundings of all living and non-living entities. Thus the environment includes abiotic, biotic and social factors (Gilpin, 1995:1). It encompasses physical, chemical, biological, cultural, historic, aesthetic and social entities and their interactions (Canter, 1996:1; Erickson, 1994:3; Jain et al., 1993:4).

Following from its definition, the purpose of EIA is to ensure that environmental considerations are taken into account in decision making about development proposals. The initial rationale for developing the EIA process was to redress the historical problem of environmental considerations being neglected or ignored in relation to economic and political considerations (Erickson, 1994:60). EIA is intended to provide the opportunity for taking into account those development consequences which are not normally incorporated in economic terms (Jain et al., 1993:1), and even to provide environmental considerations with an equal status to that traditionally accorded to economic considerations (Thomas, 1996:8).

The above rests on the assumption that explicit analysis and documentation of the results will lead to better choices based upon prediction of the consequences of development actions (Andrews, 1988:86). EIA is thus often described as an environmental management tool (Biswas & Geping, 1987:191; Evers, 1989:95; Wood, 1995:xiv). The two key elements of EIA relevant to planning and decision making are the informational element, i.e. the scientific techniques and methodologies used to generate information on significant environmental impacts of development actions and their consequences, and the influence element, i.e. the processes and procedures employed to ensure consideration of this information in decision making (Horberry, 1989:291;

Evers, 1989:95).

The envisaged end result of the EIA process is that the most appropriate decision is made in terms of maximising positive and minimising adverse environmental effects (Biswas & Geping, 1987:191). The issue of mitigation of environmental impacts is therefore central to the EIA process. However, EIA could also lead to the conclusion that it would be impossible to mitigate particular impacts and thus result in the disapproval, total redesign or alternative siting of a proposed development action (Wood, 1995:212). Thus EIA should be used from the onset of project need identification and design, including the development of alternatives to meet the particular development need and incorporation with engineering factors into project design (Canter, 1996:xviii,31). This view reinforces that of EIA as an integral component of project planning and design (Thomas, 1996:9; Wood, 1988:88).

In addition to the above, the EIA process is purposively designed so as to encourage public participation in decision making processes related to the environment, thus promoting environmental awareness and education in environmental values (Biswas & Geping, 1987:193; Thomas, 1996:13). The intention is also to achieve the latter through ensuring that the primary responsibility for environmental protection in respect of development proposals falls to the proponents of such proposals themselves (Thomas, 1996:13).

2.2.2 Historical development

The promulgation of the United States (US) National Environmental Policy Act (NEPA) in 1969 is widely accepted as the official beginning of formalised EIA procedures (Goodland et al., 1996:4). NEPA provisions contain three main elements, namely a general environmental policy; requirements for preparing environmental impact statements (EIS) for federal actions that entail significant effects on the environment, and institutionalising the Council on Environmental Quality (CEQ) to oversee legislative compliance (Wathern, 1988: 23). Litigation by environmental interest groups has been a critical force in developing EIA regulations in the US, serving to clarify vague aspects. This resulted in regulations regarding the law compiled in 1978 which reflected core court rulings on the details of EIS. Litigation has been ongoing in the US over the years, with the

purpose of challenging EIAs that do not adequately forewarn of potential environmental threats (Bonine, 1997:77,79; Wathern, 1988:24). An initial problem which arose in response to litigation was that EISs became unwieldy “encyclopaedic” documents in the effort to cover all possible impacts, while failing to inform better decision making by comparing the adverse and beneficial consequences of particular projects. This led to further refinement of requirements by the CEQ (Marriott, 1997:9).²

The institution of mandatory EIA spread from the US to other developed countries, for example, Canada adopted legislation in 1973, Australia in 1974, the Netherlands in 1981 and Japan in 1984, while the European Community finalised a directive in 1985. The spread of EIA was less rapid in developing countries. Nevertheless, Colombia, Thailand and the Philippines are examples of early institution of EIA procedures. African countries with experience in EIA include Rwanda, Botswana, the Sudan (Wathern, 1988:3) and South Africa.³ Developing countries have often been compelled by donor agencies to incorporate EIA in project approval procedures. Thus, by 1996, it could be stated that more than 600 guidelines for EIA had been generated by various development assistance agencies (Bisset, 1996:2nd page of Foreword). Over 75 countries had formalised EIA through legislation or regulations by the early 1980s, while over 100 countries had been involved in EIA processes under the influence of aid agencies (Canter, 1996:30).

Originally technical feasibility studies and cost-benefit analysis (CBA) were used to assess project impacts. Inherent problems in the CBA approach to express all costs and benefits in monetary terms led to the development of EIA as an additional component to CBA, the intention of which was to evaluate those impacts which the CBA methodology handled with difficulty (Smith, 1993:17,18). Thus EIA was initially used as a system for collecting information, but without appropriately positioning it within the environmental policy context (Schweizer, 1985:2). In the first phase of its application, EIA was indeed handled as an afterthought, i.e. environmental aspects were considered only after a project design had been finalised. However, EIA has evolved to the current phase, where it is regarded as a tool to assist in better project design and planning (World Bank, 1995:50). Similarly, EIA has evolved from a narrow focus on environmental consequences of proposed projects to the identification and evaluation of a wider range of consequences of development decisions (Clark & Herington, 1988:3).

Western societies have forecast events on the basis of hindsight knowledge, trends projection and rational planning theory since the 18th century (Barrow, 1997:11). In the 19th century concerns for public health on the one hand and interest in nature in the form of nature conservation and national reserves creation on the other developed as two separate paths that converged into concern for total environmental protection in the 1960s, which later culminated in the comprehensive process of EIA (Gilpin, 1995:1). The fields of rational planning theory, technology assessment, risk assessment and CBA all influenced the evolution of EIA (Barrow, 1997:11).

EIA is believed to have gained ground because the former technocratic approach in Western countries was replaced by an approach of environmental management aimed at compromising between economic growth and environmental consequences. This politicisation of environmental issues was facilitated through public awareness of the potential detrimental nature of new technologies and developments which increased due to scientific understanding of the environment and publicity of these discoveries; pressure group activity, especially in the US and United Kingdom, and the larger scale of resources development, e.g. in relation to energy. The evolution of EIA is thus described as "... a natural consequence of the politicisation of the environment" (Sheate, 1996:16).

2.2.3 The EIA process and procedures

The EIA process consists of a series of steps or activities. It is important not to view this process as a rigid series of sequential steps, but to recognise its cyclical and iterative nature (Barrow, 1997:98; Canter, 1996:48; Wood, 1995:5). In many countries the stages and steps in the EIA process have regulatory or legislative status (Kirkpatrick & Lee, 1997:5). Although there are many versions of the specific steps, most contain the following activities:

- Consider alternative ways for achieving the specific developmental objective;
- design the chosen proposal;
- screening: determine whether a formal assessment is required, and if so, whether this should entail a detailed EIA or only an initial assessment on the basis of which a final decision can be made as to the need for a detailed EIA;
- scoping: determine what topics or issues the EIA should cover, as well as the approach

to and parameters of the coverage;⁴

- compile the EIA report;
- review the EIA report, checking for quality and adequacy of coverage;
- make a decision about the proposal;
- monitor implementation of the proposal (Wood, 1995:5).⁵

In the above representation of the EIA process an array of activities are implied by the step “compile the EIA report”. These are the activities included in conducting the actual EIA study, namely baseline data collection; description of the environment that may be affected; impact identification, prediction, interpretation, evaluation and assessment; comparing alternative proposals; proposing measures to mitigate impacts, and deciding how to present assessment results (Barrow, 1997:99-114; Canter, 1996:37; Horberry, 1989:294,296; Sowman et al., 1995:56). The importance of public participation and stakeholder consultation as well as consideration of impact mitigation throughout the process is emphasised (Wood, 1995:5).

The schedule and budget for the EIA process should be planned on the basis of envisaging series of steps or activities. The formation of the interdisciplinary team responsible for conducting the EIA study is also an important element in the planning stage (Canter, 1996:49,50).

In EIA terminology methodology refers to “structured approaches” for executing basic activities in the assessment process. The methodologies are applied to substantive areas of the biophysical and socio-economic components of the environment, e.g. air; surface-water, soil and groundwater; noise; cultural, etc. (Canter, 1996:56). EIA methodology is utilised to achieve the key objectives of identifying possible impacts; predicting impact magnitude; evaluating impact significance; mitigating critical impacts; designing monitoring programmes, and communicating EIA results (Erickson, 1994:30; Kirkpatrick & Lee, 1997:6; Wathern, 1988:9).⁶

Canter (1996:56) uses a broad categorisation of only two main sets of specific EIA methodologies, namely checklists and interaction matrices, including networks as a variation of the latter.⁷ Checklists are either simple checklists, which simply list the environmental factors that should be considered, or descriptive checklists, which list environmental factors together with

information on measurement, prediction and assessment of impacts. An interaction matrix is a list of project activities represented against a list of environmental factors. These are either simple matrices of the impacts of project activities, or stepped (“cross-impact”) matrices, which include indirect impacts of project activities, displaying various environmental factors against one another. Networks (or “sequence diagrams”) include interrelationships between project activities and environmental factors, thus integrating the causes and consequences of impacts (Biswas & Geping, 1987:202; Canter, 1996:56,59,69,81,86).

Much of the existing EIA methodology was developed in the 1970s, following the lead of economic science in models, matrices and networks, with often independent subjective weightings by experts. While much is still useful, the influence of public participation, interaction in the political sphere, conflict over environmental issues, prescribed standards, regulations and legislation have been felt (Gilpin, 1995:35; Wathern, 1988:9).

Alternative proposals should be systematically and thoroughly analysed in EIA, since comparing options in order to arrive at the most environmentally sound development alternative is central in the EIA process. The ideal approach is that a comprehensive range of alternatives should be developed to cover possible responses to the identified development need. An initial screening of these options should result in a list of viable alternatives for consideration in the scoping phase. The alternative of no development⁸ should serve as the baseline for comparing other proposed alternatives. This option should be the chosen result of the EIA process if the EIA study concludes that the benefits of any of the proposed development projects do not exceed the adverse effects or costs (Marriott, 1997:51-56).

Approaching an assessment as a means of comparing alternative proposals, influences its design. It should be structured to clearly distinguish differences between the effects of alternatives, thus creating a framework for decision making in contrast to simply serving to justify one specific proposal. The requirements for considering alternatives stipulated in most EIA regulatory systems force analysts to pay specific attention to actual choices, leading to a better basis for a final decision (Andrews, 1988:88).

Generically, impacts are categorised as direct, i.e. environmental changes induced directly by project activities; indirect, or secondary, tertiary and higher order impacts, i.e. environmental changes following from direct impacts, and cumulative, i.e. the combined effect of direct and indirect impacts resulting from more than one project in the same vicinity. Indirect and cumulative impacts specifically result because of dynamic interactions between direct impacts and different environmental components and processes (Erickson, 1994:9,10). Assessing impacts consists of the following steps: specifying discrete project activities for identifying direct impacts on environmental components and dynamics; identifying resultant indirect impacts (on the basis of insight into the dynamic interlinkages between various social and physical environmental components); evaluating the identified potential impacts, including measuring and assessing significance and extent, individual likelihood, time and frequency of occurrence; aggregating the various impacts to represent full environmental impact, and developing measures to mitigate impacts.⁹ Insight into the environment, its components and dynamic processes occurring within and between the various components is a prerequisite for sound identification and assessment of impacts. Environmental models are developed which represent the complexity of the systems in the form of compartments or attributes through which energy and material flow, determining their interaction, in order to adequately predict all potential impacts. Rather than attempting to model environmental complexity precisely, the use of models in EIA entails the practical application of knowledge of environmental dynamics to facilitate decision making (Barrow, 1997:109; Erickson, 1994:13,14,16-18; Jain et al., 1993:83,104).

Cumulative impact assessment is widely recognised as a problematic area within project-level EIA. The assessment of cumulative impacts should focus on additive effects, i.e. impacts which cannot be assimilated because of their frequency or density, and synergistic effects, i.e. those that render different or additional impacts because of a combination of activities (Smith, 1993:27). Although most effective EIAs do address cumulative impacts, the assessment of cumulative impacts is not yet the norm. Although EIA of different projects may identify problem areas, they fail to avoid or mitigate them, making cumulative EIA essential (Goodland et al., 1996:11). Thus cumulative impact assessment (CIA) has been suggested as a specific methodological approach related to EIA in order to account for the aggregate impacts of various projects (Thomas, 1996:42).¹⁰

Rees (1988) links the question of cumulative impacts to sustainable development. Many of the widely acknowledged current ecological issues, such as the ozone layer and acid rain, have resulted from the cumulative effects of globally expanding economic activity. Systematic sustainability planning would therefore "... obviously require systematic identification and monitoring of cumulative negative trends in significant environmental variables" (Rees, 1988:284).

Assessment efforts have remained focussed on physical factors for long; where social impacts¹¹ are considered, their assessment is often approached fairly narrowly in relation to economic, aesthetic and archaeological factors (Erickson, 1994:23). Even where EIAs include social impacts, these assessments have often not been executed as comprehensively as those for physical aspects. Many EIA reports as well as regulations for EIA in some cases still do not include systematic analysis of social impacts (Goodland et al., 1996:7). However, in the light of the broader definition of the environment as including social factors now generally accepted within EIA, this component is expected to receive more intensive consideration (Thomas, 1996:34). Also, increased concern for environmental equity, cultural diversity, sustainable development and public health has facilitated recognition of the need to overcome limited coverage of social factors (Erickson, 1994:23).

Social impact assessment (SIA) is the appraisal of the impacts of project activities on the well-being and quality of life of individuals and their communities (Canter, 1996:502). This includes assessment of direct and indirect impacts on personal, interpersonal and community aspects of society and their interlinkages. Direct social impacts can cause significant indirect environmental impacts; the reverse is also true (Erickson, 1993:25,27). Incorporation of SIA into EIA is highlighted in the Rio Declaration and Agenda 21 emanating from the 1992 United Nations Conference on the Environment and Development (UNCED) (Stein, 1997:239). The procedure followed in SIA coincides largely with that followed for identifying and evaluating impacts already described, with the addition of one special consideration, namely the analysis of impact equity, which entails clearly determining who will benefit and who will lose and stressing the needs of vulnerable groups. The involvement of all impacted groups is also essential (Stein, 1997:245).

Mitigation measures are intended to ameliorate adverse environmental impacts as well as to

enhance beneficial environmental impacts. Such measures can be in the form of avoiding or reducing adverse impacts or remedial measures, e.g. enhancing the environment or compensating for environmental losses (Erickson, 1994:7; Wood, 1995:212).¹²

Since mitigation measures may have environmental impacts in their own right, it is necessary to treat all proposals for mitigation as project activities. Thus their potential impacts, both adverse and beneficial, on environmental components and dynamics should also be identified and assessed. The EIA report should include details of proposed mitigation measures and their evaluation. Consideration of appropriate mitigation should form an integral part of all phases of the EIA, during the undertaking of the study and preparation of the report, report revisions, final decision making and monitoring. The earlier in the process consideration of mitigation proposals commences, the more likely it will be that they are as effective and efficient as possible (Erickson, 1994:250; Wood, 1995; 214,215).

While certain mitigation measures may entail little additional project costs, others may have substantial financial implications. This may lead to the project proponent withdrawing the proposal under consideration because the additional costs have become prohibitive. Alternatively, decision makers may question whether proposed mitigation will ensure sustainability.¹³ In the final decision making phase trade-offs between mitigation measures for different impacts may also have to be considered. Consultation with stakeholders can provide valuable input into this process (Wood, 1995:213).

Mitigation measures that have been implemented should be carefully monitored in order to determine whether the objectives of mitigation have been achieved and to identify unforeseen impacts. An environmental plan which includes monitoring criteria will be useful to attain this purpose (Erickson, 1994:251; Wood, 1995:215).

The final outcome of an EIA is a formal document which reports the findings of the study, often called an environmental impact statement (EIS) (Canter, 1996:623; Wathern, 1988:6). Since the document will be reviewed by all stakeholders and used by authorities to make the final decision on the project proposal, it should be carefully compiled to effectively communicate both adverse

and beneficial environmental impacts to technical and non-technical audiences alike (Barret & Thérivel, 1991:49; Canter, 1996:623,624; Gilpin, 1995:16).

General agreement on the contents of an EIS indicates that it should cover the following elements: executive summary or abstract; introduction, including details on project title and project proponent, and a brief description of the project's objectives and nature; statement of purpose of and need for the proposed project; description of the environment that will be affected by the proposed project; expected impacts of project activities; evaluation of alternative proposals and sites, including the no-action alternative; planned programme for monitoring the environmental impact of the project, and summary of conclusions. Sources of data and information, lists of those consulted and particulars of the study team should obviously be cited (Barret & Thérivel, 1991:2; Biswas & Geping, 1987:213-215; Canter, 1996:624,628; Gilpin, 1995:16; Wathern, 1988:7).

After several reviews by stakeholders, the final EIS is reviewed by the responsible authority for decision making. The main criteria to be considered in the reviews are compliance with EIA regulations; quality of the technical contents, and clarity, comprehensiveness and accuracy of the document (Jain et al., 1993:158,159). EISs used in the final decision regarding approval should record decisions, state commitment to and allocate accountability for impact management (Bisset, 1996:18).

Erickson (1994:61) describes the formal decision making process as "... a series of interrelated prediction, value and selection systems". The experiential base contains all data, information and knowledge relevant for decision making and defines appropriate goals, objectives and actions; the prediction system describes the consequences of the intended actions, while the value system contains the diverse attitudes and values of the different institutions which decision makers have to take into account. The selection system is the culmination of integrating the consequences and values, resulting in the selection of preferred alternatives (Erickson, 1994:60-62).

Formal methodologies for decision making are seldom used; decisions often emerge cyclically and incrementally throughout the EIA process and review procedures. Since environmental issues are complex, many trade-offs are usually made in the process. The experiential base in the decision

making process already contains a variety of such trade-offs, e.g. between values and facts; prediction and evaluation; certainty and uncertainty; need for additional information and need to come to a speedy decision; complexity of issues and simplification in order to enhance understanding (Wood, 1995:181,182). In comparing the risks and benefits of a specific decision, the EIA report is one component of information which decision makers will consider (Schweizer, 1985:3).

Politicians and officials involved in final decision making on project proposals make trade-offs between environmental and other factors. Decision making remains essentially a political process, in which the environment competes with a range of social and economic priorities. In the final decision the technical evaluation of the EIA may therefore be overridden by political, economic or other considerations (Wood, 1988:100; Wood, 1995:183). While an EIA does not necessarily serve as a final deciding factor, it is held to promote transparency so that, even when environmentally unsatisfactory decisions are made, the environmental consequences are clear. Because the EIA focusses on prevention, it does contribute to more environmentally sustainable decisions (Sheate, 1996:26; Thomas, 1996:12; Wood, 1988:100). Fairness is an important issue in final decision making, which has to be demonstrated to stakeholders (Jain et al., 1993:158; Wood, 1995:184).¹⁴

Monitoring, defined as the ongoing or repetitive quantitative measurement of actions that provide environmental management data, is an essential element of the EIA process. EIA monitoring falls into two categories, i.e. action monitoring of individual EIA studies, which is mainly concerned with the technical aspects of EIA, and auditing of EIA systems, which is concerned with the entire EIA procedure and its philosophical approach. The first category can again be divided into three main types of action monitoring, namely compliance or implementation monitoring; impact monitoring, and impact auditing or post-auditing. The main purpose of implementation monitoring is to ensure that the project is executed in compliance with conditions of approval; it entails checks on implementation of project actions, on mitigation measures and on discharge and emission levels in relation to set standards. Impact monitoring entails measuring the extent and levels of environmental impacts of project actions in order to adjust project design or management in the case of unforeseen effects. The prime purpose of impact auditing is testing the effectiveness

of prediction techniques with a view to future improvement, with the management of impacts as a supplementary purpose. It entails comparing the results of the action and impact monitoring with the commitments and predictions made during the EIA process as recorded in the EIA report (Bisset, 1996:25; Canter, 1996:638; Jain et al., 1993:179; Thomas, 1996:188; Wood, 1995:197-199).

It is essential to develop a preliminary monitoring programme early in the EIA process for full development when the project has been approved. Such a programme should be sufficiently resourced and coordinated for effectiveness. Environmental data are often routinely collected; the identification, aggregation and interpretation of such data are necessary for incorporation into an environmental monitoring programme. Existing monitoring programmes should be utilized where possible, and overlapping responsibilities of different authorities coordinated in order to cut the costs of planning and implementation (Canter, 1996:644; Gilpin, 1995:26; Wood, 1995:200). Involving community liaison committees in monitoring and impact management should be considered (Bisset, 1996:18).

To ensure effective implementation of monitoring, results should be published. It would also be helpful if all relevant monitoring information could be available at one place. A right of appeal in cases of unsatisfactory results would strengthen public scrutiny of monitoring programmes (Wood, 1995:200,201). Implementation of monitoring programmes would further be strengthened if they are legally required in EIA systems (Kakonge, 1994:301; Sheate, 1996:111,113; Wood, 1995:197,198).

The second category of EIA monitoring, namely auditing of EIA systems, is necessary to learn from the experience of EIA practice and so improve the systems. To facilitate this form of monitoring, it is essential that, at country level, records of EIA studies undertaken, formal reviews of EIA reports, other EIA-related documents, details of financial implications of EIA and time taken for completing EIA studies be kept and be publicly available. It is further recommended that EIA systems should be regularly reviewed and adjusted accordingly. Consultation and public participation should be incorporated into the review process (Wood, 1995:241,242).

A key element of EIA is public participation in the process. Over time, emphasis on opportunities for public scrutiny of government actions in the face of expanding government functions, growing specialisation and increasingly complex societies has grown in order to balance the final responsibility of government with public control in democratic systems¹⁵ and thus ensure transparency (Gilpin, 1995:63; Goodland et al., 1996:9; Thomas, 1996:44).

Public participation is defined as a "... continuous, two-way communication process which involves promoting full public understanding of processes and mechanisms through which environmental needs and problems are investigated by the responsible agency"(Canter, 1996:587). It incorporates two basic elements, namely that of providing information to the public on details of the environmental impact studies and the implications thereof (feed-forward), as well as soliciting their views and preferences from the public (feedback) (Canter, 1996:587,588). Public participation is evolving from information provision through consultation and participation to full partnership. While consultation does solicit input from stakeholders, it does not necessarily extend to influencing decision making, whereas partnership implies sharing control and therefore empowering stakeholders to directly influence final decisions (Bisset, 1996:34; Goodland et al., 1996:9,10; Sheate, 1996:89).¹⁶ However, in practice development proposals have seldom been withdrawn due to public input (elni, 1997:20).

Stakeholder representation in EIA processes is often characterised by NGOs serving as representatives of local communities. While it is convenient to rely on NGO representation rather than involve large numbers of individuals, concerns arise over whether public views are in fact accurately presented by such groups. To overcome this problem, it is recommended that care should be taken to ensure a balance in interests represented, rather than to focus on the actual numbers of participants (Bisset, 1996:35; Smith, 1993:67).

The issue of equity is crucial in public participation: women are often not involved even though they form a large proportion of the affected population. The same applies to minority ethnic groups and the poor. It may thus be necessary to make special provision for empowering participants of disadvantaged groups, e.g. through assisting them with funding or other means (Barrow, 1997:74; Bisset, 1996:35; Thomas, 1996:55). This ties in with the moral imperative that

the people who will be affected by a decision should have the opportunity to influence the decision making process (Sheate, 1996:88; Smith, 1993:66).

It is essential to develop a public participation programme at the onset of the EIA process to prevent an overemphasis on its technical elements, as well as to ensure that environmental values receive proper attention (Bisset, 1996:36; Thomas, 1996:58). As a first step in compiling such a programme, the objectives of public participation should be clearly defined. This will facilitate the selection of suitable techniques to attain the objectives as well as set the context for evaluating the programme's effectiveness (Canter, 1996:590; Thomas, 1996:49).¹⁷

The importance of public involvement in the scoping process, as the first stage of identifying issues and impacts and before the terms of reference for the EIA are prepared, is widely recognised (Bisset, 1996:36; Canter, 1996:589; Thomas, 1996:58). Similarly, a two-way communication process of information provision by the study team to the public and contributions from the public in the form of information provision and reviews of study team outputs is necessary in the stages of gathering baseline information on the affected environment; impact prediction and evaluation; planning for mitigation; comparing options to the project proposal; documenting the EIA study and deciding on the proposal (Canter, 1996:589,590).

Although there is a wide variety of techniques for public participation available, the public hearing is the traditional approach that is still most widely used. Responsible authorities use the public hearing extensively because it is regarded as a fast and economical process which is easily administered in order to adhere to EIA regulations relating to public involvement, while retaining control over the process. However, public hearings are not necessarily the most effective approach, since they focus on opposing viewpoints rather than on consensus seeking (Smith, 1993:68).¹⁸ The most effective public participation programme should utilise a mix of techniques that succeed in achieving the programme's objectives (Canter, 1996:601-609; Smith, 1993:67,68). Innovative techniques for dispute resolution have been developed, notably mediation and negotiation techniques which focus on building consensus under the term environmental dispute resolution (Canter, 1996:609-611; Smith, 1993:71,74).

To enhance the effectiveness of public participation, it is essential to ensure that public participation outputs are incorporated into decision making. In practice, public participation events are often meaningless because follow-up actions are not carried out effectively. To prevent this, public input should be summarised and considered by the EIA study team (Marriott, 1997:46). Public preference for a specific development option could also be included together with other information to use as a basis for final decision making. The entire public participation programme, both what was planned and accomplished, should also be summarised and included in documentation of the EIA process (Canter, 1997:617; Thomas, 1996:58).

2.3 Strengths

One of the main strengths of EIA is its legal status as a planning tool for environmentally sound development. The fact that its results are required to be made public further enhances its status (Bisset, 1996:1; Evers, 1989:94). Another major strength is that some proposed large-scale projects have been abandoned because the application of EIA proved that their implementation would degrade the environment. In general, EIA improves project design through retaining the most sound components and improving the design of or dropping unacceptable ones (Goodland et al., 1996:6). The most pertinent benefits of EIA can be presented at different levels, i.e. to government or decision making authorities, to developers, to the public and to the planning profession and environmental practitioners.

The advantages of EIA to government and decision making authorities fall into two main groups, namely improved decision making and better environmental management. Improved decision making advantages include providing a more accurate and comprehensive basis for decision making; providing essential information within a systematic framework for selecting sustainable and environmentally benign development alternatives; improving compliance of proposed projects with established environmental standards; providing opportunities to incorporate conditions of approval to ensure that mitigation of harmful environmental impacts, monitoring, post-project analyses and auditing are carried out; eliminating unacceptable projects early in the EIA process, and reforming administrative functioning and behaviour of officials. EIA contributes to better environmental management through avoiding environmental degradation while allowing

investment in development; providing a model for legislating environmental policy; ensuring the effective implementation of environmental policies, and entrenching environmental values in the public and private sectors (Bisset, 1996:3; Canter, 1996:31; Horberry, 1989:298,299; Lee, 1989:6; Schweizer, 1985:31).

Developers can benefit from EIA by reducing time and costs to reach decisions through minimising duplication and subjectivity, as well as by preventing expensive modifications to redress environmental impacts later. Substantial savings on capital and operational costs of projects can thus be realised through the effective application of EIA from the design to the operational stages of project development. The siting and design of developments can also be improved. Perhaps the most lucrative potential benefit of EIA to developers is the prospect of reducing resistance to development, both from the public sector and from communities (Bisset, 1996:3; Evers, 1989:95; Goodland et al., 1996:6; Schweizer, 1985:4,30,31).

EIA promises various advantages to the public, the most important of which include those relating to improved access to bureaucratic decision making processes, increased public awareness of environmental issues, and enhancement of the environmentally sound nature of developments. In relation to improved access to decision making, EIA enforces that decision making is publicly disclosed, increases government and industry accountability and transparency in the decision making process, provides opportunities for presenting environmentally motivated recommendations on developments to decision makers and allows careful public scrutiny of the process as well as exercise of influence and power through legal redress and utilisation of media support. Public awareness of environmental issues is generally improved through the establishment of effective mechanisms for participation and consultation. The environmentally sound nature of developments is enhanced in that the EIA process provides assurance that the effects of a particular project have been considered and that adverse environmental impacts will be avoided or mitigated; EIA improves the integration of projects into their socio-economic and environmental surroundings, and it contributes to enhancing the objectives of sustainable development (Bisset, 1996:3,4; Canter, 1996:31; Gilpin, 1995:3; Horberry, 1989:286; Schweizer, 1985:31).

Benefits to planning professionals and environmental practitioners include providing opportunities for assessing the significance of environmental impacts and for carefully investigating alternative approaches, technologies and sites; delivering reliable forecasts of impacts of project alternatives on both the socio-economic and natural environments; improving the effectiveness of projects in relation to their socio-economic and/or financial objectives, and ensuring acceptability and feasibility of development (Bisset, 1996:3; Horberry, 1989:299; Schweizer, 1985:31).

When considering the above potential benefits of EIA, it is interesting to note that the direct costs of an EIA study is estimated at about 0,1 to 1% of total project costs (Barrow, 1997:80; Canter, 1996:30; Wood, 1995:254). Data collection normally constitutes a substantial investment of overall EIA costs, increasing costs of EIA in developing countries where the availability of data is often more problematic (Barrow, 1997:80). An additional element of EIA costs is the institutional framework and infrastructure that governments have to commit to resourcing their EIA systems (World Bank, 1995:52).

The incorporation of social impact assessment into EIA strengthens comprehensive environmental appraisal through ensuring that consideration of social impacts is balanced with that of other impacts in comprehensive appraisal; allowing community participation in assessing advantages and disadvantages of proposed developments; leaving the opportunity for rejecting the proposed project if negative social impacts are shown to be unacceptable; reducing conflict between project proponents and communities and preventing alienation of communities; ensuring that rights of minority groups are duly considered, and including measures to minimise and mitigate social impacts (Canter, 1996:503; Stein, 1997:238,239).

The intention of the requirement of most EIA systems that project proponents prepare the EIA study is to change attitudes in favour of environmental values (Sheate, 1996:28). This effect has been proven in one study undertaken in the Netherlands. The effects of EIA on decision making was assessed for 100 cases. Impact on decision making was defined as a concept consisting of two elements, namely impact on behaviour and impact on ideas or concepts. In 79 cases EIA had a direct impact; in 52 of these on behaviour, i.e. the proponent adjusted the proposal or decisions of the responsible authority were influenced because of the EIA, while in 68 cases project

proponents and/or responsible authorities changed their opinions on the EIA or other stakeholders in the process. Thus the EIA process succeeded in focussing attention on environmental issues.¹⁹ However, only three proposals were not approved by the responsible authority. The authors conclude "... that the impact of EIAs is great, even taking in account the effort they require" (Ten Heuvelhof & Nauta, 1997:25-28).

Ten Heuvelhof and Nauta (1997:29,30) furthermore found that three sets of variables investigated, i.e. those relating to the formal design of the EIA, to the project's controversy and to project proponents' prior experience of EIA, did not influence the effect on decision making. However, a fourth set of variables relating to management of the EIA had a significant effect on decision making. Specifically, the time when the EIA process was initiated in the project's development led to higher impact. The explanation offered is that an early start provides more opportunities for interaction between stakeholders that may lead to changing attitudes and consensus building. The formulation of the intention of the EIA in terms of major policy issues instead of much detail also had a significant effect. The reason given for the higher impact of this variable is that an intention focussing on main themes is more flexible and thus open to including the diverse interests of various stakeholders. Consensus building during the EIA process is enhanced by these factors, leading to the higher impact on decision making.²⁰

Monitoring programmes are emphasised as essential for ensuring that EIA effectively influences development activities through their construction and operational phases. The benefits of environmental monitoring can be summarised as follows: generating management information on impacts which facilitates control of levels, location and timing of impacts, validation of impact prediction techniques and evaluation of mitigation effectiveness; warning of unpredicted adverse impacts, changes in trends of expected impacts or when a particular impact indicator approaches a critical level; enforcing conditions and standards of approval of projects; strengthening the effectiveness of mitigation in the case of individual projects, and improving mitigation measures for future use (Canter, 1996:639; Gilpin, 1995:26; Thomas, 1996:190; Wathern, 1988:16,17).

Public participation and consultation as integral components of EIA decidedly strengthens the process, especially in comparison to other appraisal procedures that do not always emphasise

these aspects to the same extent. The positive effects of public participation are many and varied. The most important of these include involving affected people in decision making before final decisions are made; utilising the knowledge and expertise of local people; ensuring political and administrative accountability for decision-making, and affirming democracy while eliminating hostility and alienation (Canter, 1996:588; Sheate, 1996:88; Thomas, 1996:46).²¹

2.4 Limitations and weaknesses

The limitations of EIA will be evaluated at different levels, namely weaknesses and constraints in its practical application, its scope and its basic conceptualisation and philosophical tenets. While the first accepts EIA as given and focusses on its implementation in practice, the second moves to an overall assessment. However, it is at the third level where the foundations of EIA are actually questioned.

2.4.1 EIA practice

Generally, EIA processes suffer from a variety of limitations.²² An overview of the main shortcomings related to EIA processes include that authorisation of proposed projects is delayed through weak management of the EIA process; the EIA study phase often lasts too long; EIA studies are poorly organised; the investigations fail to concentrate on major issues, and procedures for attaining early consensus on the scope of EIA studies are weak. Also, procedures for ensuring consistency in selecting those project proposals that require detailed EIAs are not well developed. EIAs are often reactively or responsively undertaken after initiation of development, instead of being proactively incorporated from the early stages of development planning (Barrow, 1997:81, 124,125; Bisset, 1996:4; Goodland et al., 1996:6; Lee, 1989:7; Meredith, 1992:129).

Weaknesses and limitations in EIA practice will be discussed in relation to application of EIA and to EIA systems, which form the context for EIA application. In relation to EIA application, the following aspects will be discussed: quality of EIA documents; impact evaluation; scientific rigour; EIA methods and techniques; consideration of alternative proposals; impact management

and monitoring; the effect of EIA on decision making; public participation in EIA processes, and contributions to improving general environmental quality. In relation to EIA systems, the focus will be on EIA in developing countries.

The quality of EIA documents which reflect the entire EIA study is variable, with deficiencies in the quality of EIA reports generally acknowledged (elni, 1997:9; Wood, 1995:298). Two specific studies evaluating this aspect have been reported. Guilanpour and Sheate (1997:138-150) reviewed 18 Tanzanian EISs.²³ The main conclusion was that the quality of Tanzanian EISs was poor, showing much inconsistency and variability. The fact that identification and assessment of major impacts were poorly addressed is regarded as especially problematic in terms of EIA's predictive intent. The implication of the poor quality EISs produced in Tanzania is that good information in support of decision making is not forthcoming, thus rendering the impact of EIA on decision making meaningless. This seriously limits the effectiveness of EIA.

Guilanpour and Sheate (1997) further highlight the general criticism that impact evaluation is one of the weakest areas in EIA. Impact assessment methods tend not to evaluate impacts, but simply describe them; expert judgements are not balanced with public contributions, and the actual performance of methods in practice have not been thoroughly researched. Decisions on methods to be used in specific cases are therefore based on experiences that are not necessarily applicable to the specific situations, on assumptions and on preferences of EIA practitioners. Since EIA methods have been developed from the impact identification perspective, they tend to be inadequate for prediction, assessment of significance and evaluation (Smith, 1993:26,188).²⁴ EIAs are also often weak at identifying and assessing indirect and cumulative impacts (Goodland et al., 1996:6; Lee, 1989:7). Another major problem area in relation to impact assessment is that sufficient environmental data are unavailable and understanding of the dynamics of environmental systems is inadequate.²⁵ In addition, EIAs often approach assessment statically, assuming constancy of causal relationships which are, in fact, dynamic (Barrow, 1997:81).

The second study reviewed ten Canadian EISs.²⁶ The main deficiency in relation to general performance was insufficient scientific rigour. Other shortcomings included consideration of uncertainty and risk; assessment of potential for reversing impacts; identification of cumulative

impacts, and attention to sustainability.²⁷ Evaluation of alternatives was handled particularly poorly, with only one EIS evaluating all alternatives systematically. The identification of principles and policies for impact management and provision for peer review for assessing monitoring measures were also weak (Lawrence, 1997b:229).

The question of scientific rigour raised in the above review ties in with weaknesses in EIA methods and techniques. Handling impact prediction, significance assessment and evaluation of consequences as distinct activities in the EIA process could contribute to improving the scientific quality of EIAs. In addition, effective planning should combat the tendency to rely on compensation as part of mitigation measures, and consensual decision making methods should replace the current dependence on expert judgements. These strategic adjustments to EIA practice would serve to improve the ultimate impact of EIA on decision making, thus contributing to sustainable environmental management (Smith, 1993:158).

The criticism that alternative proposals are not effectively considered or that preferred alternatives of some interest groups are not taken into account is common (Andrews, 1988:88; Goodland et al., 1996:7).²⁸ EIA studies usually lack clearly articulated goals for community development against which to compare development alternatives. Alternatives to development proposals, especially the no-action alternative, do not always receive adequate attention since the EIA can be seen as a means to assist development (Goodland et al., 1996:6; Meredith, 1992:129; Thomas, 1996:187). Sustainability indicators should be used to compare impacts of alternatives and select the least environmentally degrading alternative (Bisset, 1996:17,18).

The weakness of impact management and monitoring is also highlighted by the Canadian review. Important conclusions drawn from impact auditing results confirm that standardised audit methodologies do not exist, changes to project designs after completion of the EIA reports render many predictions invalid and monitoring systems have often not produced adequate information for purposes of auditing (Wood, 1995:200).

It has specifically been stated of projects in Africa and Australia that post-EIA implementation often does not include monitoring (Kakonge, 1994:297,301; Thomas, 1996:189). In addition,

recommendations relating to mitigation and monitoring are not carried forward into the implementation and operational phases of projects (Bisset, 1996:4).²⁹ Moreover, the emphasis on identification of impacts has averted attention away from the required improvement of management and impact mitigation methods. Experiences with management and mitigation has not been effectively evaluated through research (Smith, 1993:189).³⁰

In relation to its effects on decision making, it has been found that results of EIA studies are not satisfactorily incorporated into decision making processes and also not properly balanced with other assessment techniques, such as CBA, risk assessment and technology assessment. Also, mechanisms for ensuring due consideration of EIA results in final decision making do not exist and major decisions on project development are made before completion of the EIA studies. Since EIA reports are often long and technically complicated, the public and responsible decision makers do not readily understand the implications of the EIA reports (Bisset, 1996:4; Goodland et al., 1996:6; Lee, 1989:7; Thomas, 1996:187). The risk remains that EIA is used simply to justify a project and to appease the public rather than to really influence decision making (Sheate, 1996:28).³¹

Although public participation is seen as an essential element of EIA which holds many advantages, it is not without disadvantages. The disadvantages of public participation are that issues may be confused because of the potential for introduction of many different perspectives; inadequate knowledge of participants may result in inaccurate information being received; the outcome of the public participation process is uncertain; projects may be delayed; project costs may be increased, and involvement of many people makes decision making cumbersome and less efficient (Canter, 1996:588; Thomas, 1996:46,47).³²

In practice, it has been found that consultation and public participation programmes are often poorly organised and ineffective. Local communities are easily intimidated by the process which has been initiated from the outside and is dominated by experts. Cultural differences in aspirations and perceptions are usually not considered. It is frequently found that stakeholders act defensively in the EIA process, especially when EIAs are undertaken after the initiation of development and interpreted as supportive of the intended development rather than as an open process allowing

stakeholders to voice their opposition. Disadvantaged people who are not technically literate are often excluded from participation in the EIA process due to its bias towards the technically literate. Plants and animals are obviously also excluded, even though they are often those most affected by developments (Bisset, 1996:4; Lee, 1989:7; Meredith, 1992:129; Thomas, 1996:187).

Perhaps the most pertinent issue relating to the effectiveness of EIA practice is raised by the question whether EIA has succeeded in improving general environmental quality. Wood (1995:255,256) concludes in this regard that “[i]t is ... doubtful whether evidence of general environmental improvement attributable to EIA ... can ever be adduced”. The reason for this lack of conclusive proof of EIA effectiveness is given as the difficulty of distinguishing its effects from other environmental management tools such as environmental standards and pollution control, EIA being only one of the measures of this nature.

The purpose of reviewing EIA systems is chiefly to generate practical recommendations for improving their effectiveness (Wood, 1995:11).³³ Sheate (1996:38-40) quotes a review of the application and effectiveness of the European Commission (EC) Directive on environmental assessment published in April 1993, the findings of which support much of the above. The most pertinent finding was that the EIA process did not clearly contribute to decision making and that the management of project implementation was not effective.³⁴

EIA in developing countries is often treated as a separate topic in the literature. In most cases, it is stated that the development of EIA systems in developing countries is behind that in developed countries, having been initiated by donor agencies expecting EIA as part of the development projects they funded (Smith, 1993:130; Wood, 1995:301).³⁵

While EIA application in developing countries suffers mainly from the same shortcomings already discussed above, constraints to EIA systems in these countries need to be highlighted here. The most critical constraints include the following:

- Lack of political commitment to environmental priorities in general and EIA in particular;
- weak or non-existent legal basis for EIA;
- weak institutional frameworks of EIA systems;

- lack of experienced personnel with managerial and technical skills for EIA implementation;
- unavailability or inadequacy of baseline data and scientific information on the environment;
- fragmentation of authority among various government agencies, coupled with entrenched power positions of main development sectors;
- lack of awareness of EIA at both national and local levels (Barrow, 1997:197,198; Bisset, 1996:4; Canter, 1996:31; Evers, 1989:98; Gilpin, 1995:179; Kakonge & Imevbore, 1993:300-302; Smith, 1993:130; Thomas, 1996:78; Wood, 1995:301-303).³⁶

One of the problems specifically mentioned in the African context is absence or fragmentation of environmental legislation which can provide a solid framework for EIA application (Churie, 1997:103; Kakonge & Imevbore, 1993:300,301).³⁷

Even where EIA systems have been formally introduced by means of legal measures and regulations, effective implementation is determined by a variety of other elements of EIA capacity, namely political backing, including allocation of funding; an appropriate institutional framework and administrative arrangements; guidelines for implementation; the context of an environmental policy; coordination across sectors; personnel, including EIA systems managers, EIA report reviewers and EIA study team members; research; databases of environmental conditions and indicators; awareness and interest of the media; training and inclusion of EIA training modules in relevant tertiary education courses (Bisset, 1996:10; Evers, 1989:97,98; Jain et al., 1993:170; Wood, 1995:198).³⁸

2.4.2 EIA scope

While the above weaknesses can still be redressed through improved techniques, approaches and institutional arrangements, it is not as straightforward to deal with the constraints related to the scope of EIA. Some limitations of EIA in this regard are that small-scale projects are not subjected to EIA even though they may cumulatively have significant impacts as a group; natural, sectoral and regional development plans are rarely subject to EIA; EIA is not applied to trade

agreements and macro-economic initiatives such as structural adjustment programmes; EIA cannot cope with transboundary impacts and with some urban development problems (Barrow, 1997:125; Bisset, 1996:4; Meredith, 1992:129). Although the impression may be created in many EIA systems that all development projects of the particular government are subject to its regulations, many public projects such as transportation, urbanisation, energy conservation, tax incentives, etc. are not routinely assessed for environmental impacts. Specifically, the cumulative impacts of such major public sector undertakings cause concern (Rees, 1988:281). EIAs can also not effectively address inaction, e.g. effects of not improving inefficient and unsafe water supply, bad road networks, failure to provide electrical power, etc. (Goodland et al., 1996:6).

The most widely cited constraint in terms of the scope of EIA relates to its application at project level. These include that site selection may be curtailed because project proposals have been finalised before EIA is undertaken, that willingness to consider alternatives may decrease in the face of a fairly fixed project proposal and that duplication and repetition may ensue if many smaller scale projects have to be assessed individually (Schweizer, 1985:5). Project proposals are normally developed in the context of higher level decisions regarding programmes, plans and policies. If these decisions have not been subjected to EIA processes, they may not be environmentally sustainable, thus rendering the quest for achieving sustainability through EIA meaningless at project level. Project-level EIA fails to contribute to strategic planning; even when wider sectoral or regional environmental implications come to light when assessing one project, EIA does not provide mechanisms for incorporating these into sectoral or regional plans (Goodland et al., 1996:6). The solution commonly offered for most of the constraints related to project-level EIA is to apply EIA at the level of programmes, plans and policies. This is referred to as tiered EIA or, more recently, strategic environmental assessment (SEA) and will be dealt with in Chapter 3.

2.4.3 Conceptualisation and philosophical base

The most severe criticisms of EIA flow from the weakness of its basic conceptualisation and philosophical foundation. Two such areas of criticism will be discussed here, namely integration and sustainable development.

A recurring issue in EIA literature is the integration of EIA with other forms of appraisal, on the one hand, and into environmental planning and resource management on the other.

In relation to EIA practice, biophysical environmental impacts and health, economic and social impacts are not properly integrated. Another problem is that EIA studies are not effectively integrated with other studies during project development, e.g. feasibility studies (Bisset, 1996:4).³⁹

The weighting of social impacts in relation to environmental and economic impacts is a critical problem of social impact assessment (SIA) (Stein, 1997:247).⁴⁰ Also, the effects of SIA on decision making has not been proved, with few reports of cases where SIA has substantially influenced decision making (Kirkpatrick & Lee, 1997:7; Stein, 1997:246). There is fairly general consensus that all social aspects, including health, political and epidemiological factors, should be incorporated into EIA.⁴¹ Yet the technical capacity and methodologies to assess the inter-relationships between these factors still seem to be inadequate (Bisset, 1996:31; Stein, 1997:261).

Integration of EIA and economic appraisal is more complex. The root cause seems to be that EIA is intended to ensure that the environmental dimension is incorporated into decision making in order to overcome the inherent inability of economic and engineering appraisals to do so. However, economic and engineering feasibility still largely dominate in the design and planning of project proposal development. The most effective means of linking EIA and economic appraisals have not yet been agreed upon, and the need still exists to develop a truly integrated method incorporating engineering, economic, financial (which includes prediction of profits) and environmental assessments into comprehensive feasibility studies (Bisset, 1996:30,31).

In an analysis of the consistency and relevance of CBA and EIA in project assessment, it is clear that the two appraisal instruments are hardly compatible (Lee & Kirkpatrick, 1997b:125-131). The basic problem remains the elusiveness of valuing environmental impacts in monetary terms. When trying to combine CBA and EIA, the basic differences in scope, methodologies, evaluation criteria, time scales, etc. seem insurmountable. The best recommendations the authors can present for fully integrating EIA and CBA into project assessment are for EIA to be handled as an input into a CBA framework for assessing social, economic and environmental impacts, or,

alternatively, handling EIA as one of the inputs into a multi-criteria planning framework for assessing social, economic and environmental impacts (Lee & Kirkpatrick, 1997b:32). These recommendations, however, hardly constitute innovative proposals for fully integrating EIA and CBA.

Kirkpatrick and Lee (1997) devoted a whole volume, the outcome of a conference held in 1996, to the issue of integrating social, economic and environmental assessments. Lee & Kirkpatrick (1997a:3-24) distinguish between a weak and a strong model for integration of these three forms of appraisal.⁴² However, although the knowledge component and application of all three forms of assessment have developed substantially over time, similar advances have not occurred in their integration and combined use in decision making. The authors conclude that a strategy to improve this situation should include raising awareness of the advantages of more integrated approaches; guidance and training in the use of integration models, and research.⁴³

The question of integrating EIA into environmental planning and resource management cuts deeper into its conceptual core and is even more critical to the future of EIA. A decade ago Clark and Herington (1988:12) already argued that "... an excessive interest in methodologies and techniques has ... tended to direct attention away from viewing the experience of EIA within the broad process of environmental planning". Erickson (1994:xi) cautions that the availability of new and sophisticated techniques does not necessarily mean that the end product is similarly sophisticated. Smith (1993:28) echoes this sentiment, stating that impact assessment reflects "... good *technique*, but ... poor *process*". Two specific proposals on the integration of EIA into environmental planning and resource management are discussed here as examples of this approach.

Bailey (1997:317-327) argues that EIA theory hardly pays attention to what happens beyond the decision making on approval of a proposed project. The relationship between EIA and subsequent environmental management needs to be examined to enrich the environmental effect of EIA. Effective EIA should aim to contribute to the improvement of environmental management. This can be achieved through formal and informal means.

The formal approach requires an environmental management programme to be formulated and agreed upon as part of the conditions of approval for a project to go ahead. Environmental management proposals would include details on ongoing research during construction and operational phases of the project, as well as monitoring, reassessment and reporting. Thus the problem of inaccurately predicted or unpredicted impacts occurring after completion of the EIA can be overcome and appropriate mitigation of such impacts can still be built into project implementation. The informal approach entails educating all personnel involved in project construction and operation in order to increase their environmental awareness in relation to the project's performance. This approach improves compliance to conditions of approval and the eventual environmental outcomes of the project. It implies that personnel responsible for project planning and design should be continuously involved in its construction and operational phases; that project managers should actively participate in the EIA process, especially in impact prediction and evaluation, and that personnel who have developed the monitoring programme should also be involved in implementing it (Bailey, 1997:323-325).

Smith (1993:92,93) criticises the current practice of EIA as not reaching the prescriptive ideal of scientific assessment in the sense that EIA studies are normally based on the assumption that development has automatic merit, thus neglecting to establish the specific need for particular project development in each case.⁴⁴ Because EIA is not embedded in a "... clear policy framework", EIAs become isolated assessments regarded as obstacles to development, or as tools for justifying development and overcoming resistance from environmental lobbies. He concludes that the problems relating to EIA application arise from "... a flawed conceptualization of impact assessment and its role in environmental planning and resource management" (Smith, 1993:1).

On the basis of his critique of EIA practice, Smith (1993:95-104) strongly argues for a redefinition of EIA "... as a process of environmental planning that provides a basis for resource management to achieve the goal of sustainability" requiring that EIA becomes "... a bridge to integrate the science of environmental analysis with the politics of resource management" (Smith, 1993:95). He proposes an integrative sustainable resource management framework, comprising of iterative stages of problem identification, resource management and impact assessment culminating in achieving the goal of sustainability.⁴⁵ Resource management is seen as linking

problem identification and sustainability, with EIA as the process of environmental planning that forms the basis for resource management. Special attention to prediction of impacts, assessment of significance and evaluation of alternatives as discrete activities in the EIA process serve as the important elements of environmental planning.

The above framework implies an inherent change in the approach to EIA, so that it can become "... an adaptive, integrative and interactive means of decision making in environmental planning" (Smith, 1993:186). Such a change requires that EIA be recognised as a political process, involving value choices. Thus the two opposing views of EIA as a "... 'technocratic' planning tool ..." versus a "... politicized process that improves decision making" (Barrow, 1997:63) can be consolidated by "... redefining impact assessment as a bridge between the science of environmental assessment and the politics of resource management ..." (Smith, 1993:186). It also requires the close incorporation of stakeholders into the full process, as well as the development of impact management techniques (Smith, 1993:185-189).

Further attempts to overcome the conceptual limitations of EIA can be found in the increasing attention paid to linking the philosophical base of EIA to the currently popular concept of sustainable development.

The linkage of EIA to sustainable development as its philosophical base is notable since the late 80s.⁴⁶ However, it is Agenda 21 of the 1992 United Nations Conference on the Environment and Development that explicitly links EIA to sustainable development. Specifically, Chapter 8 of Agenda 21 deals with the integration of environmental and developmental concerns into decision making (Gilpin, 1995:9; Sheate, 1996:196-198).

Sustainability raises the issues of both current global inequalities in resource consumption and wealth distribution, as well as intergenerational equity in resource allocation. Thus it is an ethical concept representing a social goal for development. The important linkage with EIA is the development of a framework for resource management that will achieve the goal of sustainability (Smith, 1993:3-5). Increasingly, it is recognised that environmental concerns are inherently political, specifically in relation to issues of social equity and justice, with environmental justice

as an emerging term of significance in the environmental field (Thomas, 1996:26; Sowman et al., 1995:46). Questions of the social distribution of environmental benefits and risks;⁴⁷ access to and utilisation of resources,⁴⁸ and unequal power relations in policy making and planning⁴⁹ are some of the most pertinent issues relating to equity and social justice in environmental matters, tying in with the concept of sustainable development (Erickson, 1994:8; Meredith, 1992:128; Sowman et al., 1995:46).

EIA at the project level is seen as one tool which can contribute to establishing the sustainability of proposed developments. To be effective, it should be used in combination with SEA, natural resource accounting and sustainability criteria. EIA can facilitate sustainable resource utilisation by its analysis of alternatives in relation to economic, social and environmental impacts. Natural resource accounts should be used as a baseline for evaluating impacts of projects in order to effectively assess the effects of development activities within the context of an overarching national policy based on sustainable development principles. EIA should contribute to the development of sustainability criteria, and also be measured against such indicators. Cumulative impact assessment or SEA will be more useful in this regard than project-level EIA on its own. The further development of EIA procedures can also contribute to the development of national sustainability strategies (Bisset, 1996:65-71).

Rees (1988:282-286) proposes a stronger role for EIA in the quest for sustainable development. He argues that the conceptual approach to EIA at project level as a reactive process in the short term springs from the positivist paradigm, reflecting assumptions that the environment and society are mechanical systems which can be analysed to attain full knowledge and accurately predict impacts which can then be manipulated. On this basis, impact monitoring becomes unnecessary and the cumulative impacts of various projects are ignored. The significance of single project impact cannot be assessed when viewed in isolation from "... a broader policy and planning context, without knowing potentially competing resource uses and values ..." (Rees, 1988:286). The author proposes the concept of carrying capacity as a framework for evaluating the impacts of single projects in order to adequately consider cumulative effects and the capacity of environmental and social systems to absorb impacts at regional level.

Lawrence (1997a:23-40) similarly wishes to overcome the inherent limitations of EIA by integrating sustainability into its basic tenets. He states that, from the conceptual point of view, EIA lacks clarity of purpose; an ethical basis; mechanisms for determining priorities and evaluating options, and integration with other instruments for resource management. Explicitly infusing all EIA activities, including its regulatory and planning levels, with concerns for sustainable development could help to overcome these conceptual weaknesses.

To conclude this discussion on the conceptualisation of EIA: Perhaps the most scathing criticism against the philosophical approach of EIA is that it does not question the prevailing growth paradigm: while it may promote less environmentally damaging development, it still supports economic growth (Gilpin, 1995:3). Protecting the environment is regarded as only a subordinate objective in resource management. Since environmental planning is seen as "... independent of human activity", developing and exploiting the resource base is still more important than sustainability over the long term (Smith, 1993:1). Thus the severe indictment that EIA has coopted the concept of "environmentalism" while proceeding to sanctify the development process (Thomas, 1996:200). This criticism relates to both the integration issue and EIA's linkage to sustainable development. EIA can be applied to add an environmental flavour to "business as usual", in which case it fails to achieve its ultimate purpose.

2.5 Conclusion

The overview of EIA contained in this chapter reveals that EIA is well established as an important mechanism for assessing the environmental consequences of development projects. Its formalised nature, especially in developed countries, supports its wide application at project level. To achieve its purpose of ensuring appropriate decisions in order to maximise positive and minimise adverse environmental effects, EIA should form an integral component of project planning and design from the earliest phases of the conception of development projects.

The core activity of the EIA process centres around the prediction and evaluation of expected environmental impacts of the proposed project. The development of measures to mitigate negative environmental impacts is another essential element of EIA; the application of these measures

during the implementation phase have to be carefully monitored. Ideally an environmental plan should incorporate clear indications of both mitigation and monitoring measures. Two categories of monitoring should receive attention, i.e. action monitoring of individual EIA studies and auditing of EIA systems.

Public participation is widely recognised as an important element of EIA. Feed-forward of information to the public and feedback from the public on their views and preferences are equally important. Balanced representation of stakeholders and equity in public participation are critical issues that need special consideration. An effective public participation programme should ensure public involvement and consultation throughout all the phases of the EIA process. The results of consultation with the public should receive proper consideration during final decision making on project proposals.

The main strength of EIA is its status as a legal requirement for decision making on development projects in many countries. This has undoubtedly served as a major influence in bringing environmental issues to the attention of developers, as borne out by the Dutch study quoted in section 2.3. EIA holds the dual advantages of improved decision making and better environmental management for governments and decision making authorities. Developers benefit from EIA mainly through reducing the need for redressing environmental impacts after implementing their proposals. The most important advantages of EIA to the public are improved access to bureaucratic decision making processes; increased public awareness of environmental issues, and enhancement of the environmentally sound nature of development. For planning professionals and environmental practitioners, EIA provides the opportunity to improve the effectiveness of projects through careful scrutiny of their environmental consequences.

The sustained focus on public participation in the EIA process is another of its outstanding features; this approach enhances democratic decision making and transparency. Publicity about controversies around stakeholder interests in proposed development projects raised during EIA processes have been invaluable in placing environmental concerns firmly on the public agenda.

The analysis of the limitations and weaknesses of EIA in section 2.4. focussed on three levels, i.e.

its practical application, its scope and its conceptualisation and philosophical tenets.

In relation to EIA application, the quality of EIA documents, scientific rigour of the process, the consideration of alternative proposals, and impact management and monitoring all suffer from basic shortcomings. Most alarming, however, is the general criticism that impact evaluation is one of the weakest areas in EIA. As already stated, impact assessment is a core activity in the EIA process; if the criticism that EIA methods are inadequate for impact prediction, assessment of significance and evaluation is to be taken seriously, then it is difficult to see how it can be expected that the objective of preventing adverse environmental consequences and enhancing beneficial effects can be attained in practice.

Contrary to evidence that EIA does impact significantly on decision making discussed in the overview of EIA strengths, there is also ample evidence that the results of EIA studies are not satisfactorily incorporated into decision making. Thus the risk that EIA is used rather for justifying development than for changing decision making intrinsically. Similarly, despite its status as one of the main strengths of EIA, the practical application of public participation is often poorly organised and ineffective. Public participation is thus an area that still needs considerable attention in order to ensure equitable representation and fair treatment of diverse stakeholder interests.

Unfortunately, as is often the case when evaluating the contribution of specific measures such as EIA, it seems difficult, if not impossible, to respond conclusively to the question whether EIA has succeeded in improving general environmental quality. Since it is only one of a variety of environmental management tools employed, it is hardly possible to attribute any improvement in environmental quality directly to EIA.

There is general consensus that EIA is limited in its scope. The first major concern in this regard is that EIA fails to handle cumulative impacts effectively, because of its focus on individual projects. Secondly, many development activities that are not presented as discrete projects are not subjected to EIA, even though they may entail more wide ranging environmental impacts than individual development projects. SEA, which is overviewed extensively in Chapter 3, developed as the solution to the limited scope of project-level EIA.

Literature on the weakness of its basic conceptualisation and philosophical foundation, however, contains the most severe criticisms against EIA. The two main issues in this regard discussed in subsection 2.4.3 deal with integration and sustainable development.

The integration of EIA with other forms of appraisal is one area which still needs much exploration for effective solutions to be found. While there is fairly general consensus that social impact assessment should form an integral part of EIA, similar agreement in relation to economic appraisal does not yet exist. Methodology for comprehensive feasibility studies that integrate engineering, economic, financial and environmental assessments still needs to be developed.

A further, even more crucial question relating to integration concerns the issue of integrating EIA into environmental planning and resource management. In general it seems that, while EIA is commonly promoted as an environmental management tool, the implementation of the process itself as well as the utilisation of EIA study results are not yet effectively integrated into cycles of environmental and resource planning and management. The most comprehensive and promising proposal in this regard is presented by Smith (1993): he proposes a framework for resource management with EIA as the basic process of environmental planning. This implies that EIA should be recognised as a political process which involves value choices. The place of values in impact assessment will be discussed in more detail in Chapter 4 (section 4.2).

The issue of the linkages between EIA and sustainable development also ties in with the integration issue: project-level EIA is increasingly regarded as an instrument that can contribute to ensuring sustainable development, on condition that it is used in combination with SEA, natural resource accountancy and sustainability criteria.

A last, most severe, criticism against EIA is that it ultimately fails to question the prevailing growth paradigm; in the final analysis, EIA still operates within the given context that subordinates environmental protection to economic growth. Where EIA is used to sanctify development without inherently changing attitudes towards the environment, it fails dismally in its ultimate purpose of ensuring equal consideration of environmental concerns in the face of the traditionally overriding economic and even social motives for development.

However, despite its weaknesses and limitations, it is clear that EIA will continue to be used at project level where it can, if effectively implemented, succeed in positively influencing decisions on development activities. At the very least EIA does contribute to alleviating some of the most obvious environmentally detrimental practices.

NOTES

1. Smith (1993:16) criticises most EIA definitions as consistently presenting EIA “as a *technique* to improve the data base for decision making through a process of *information generation* related to the identification, prediction and assessment of effects of project implementation”. He argues that such a view limits EIA to a narrow information generation focus, while emphasising the development of appropriate methodologies.
2. Smith (1993:9-11) is more critical of the NEPA legacy in relation to EIA than most authors. He argues that the EIA model that emerged under NEPA focussed on the EIS, resulting in a process of “... scientific data collection preceding positivistic analysis and production of technical reports ...” that was “product driven” (Smith, 1993:9). A decade after NEPA’s promulgation, it was clear that EIA had not performed as expected due to severe shortcomings in the practice of its science and its perceived inability to influence development proposal approvals as evidenced by the proliferation of litigation related to NEPA. The response to the review of the NEPA experience was to broaden the impact assessment concept through social impact assessment (SIA), technology assessment (TA), risk assessment (RA) and adaptive environmental assessment and management in an effort to overcome its biophysical bias. Refining scientific techniques for improving the design and implementation of assessments was regarded as the solution to concerns about the scientific quality of EIAs. However, Smith concludes that improved science in EIAs will not redress problems regarding the way in which information is used in resource management, since political processes determine this aspect of the intended effect of EIA on decision making. Thus he calls for a complete redefinition of the contribution of EIA to resource management. Smith’s views in this regard are discussed in detail in subsection 2.4.3 later in this chapter.
3. In South Africa, the Council for the Environment, an advisory body to the then Minister of Environmental Affairs established under the Environment Conservation Act of 1982, initiated a committee for investigating whether EIA requirements should be introduced in the country. After much research, it finally published a document proposing the introduction of Integrated Environmental Management (IEM), which would have required EIA for development actions with significant environmental impacts. The initial proposal for the term IEM was based on a perception of EIA as being “... too limited in scope, reactive, anti-development, too separate from the planning process, and often the cause of costly delays” (Sowman et al., 1995:51). The term IEM intended to emphasize the integration of environmental considerations at all stages of planning, as well as monitoring and management after impact assessment. The Environment Conservation Act of 1989 contained a framework to mandate EIA. It also stated that the Minister of Environmental Affairs had to enact regulations for EIA procedures. The Department of Environmental Affairs published revised guidelines on IEM in 1992, and the Minister published proposed EIA regulations in 1994 (Loots, 1997:107-109). However, EIA was formally enacted only in 1997 when the Department of Environmental Affairs and Tourism (DEAT) published regulations on the identification of activities which may have a substantial detrimental effect on the environment under section 21 of the Environment Conservation Act of 1989 (RSA, 1997). This was followed by the publication of a guideline document on EIA regulations in relation to the implementation of sections 21, 22 and 26 of the 1989 Act (DEAT, 1998).

In 1998, the DEAT published a discussion document entitled *A national strategy for Integrated Environmental Management in South Africa*. This document was intended as an extension of the scope of IEM to cover all activities that could affect the environment through adding three procedures to IEM. A programme for legislating IEM as a total concept was included in the document, with a view to the

enactment of an IEM Bill early in 1999 as the culmination of ongoing consultations on its details (Heydenrych & Claassen, 1998:9,13).

In the meantime, the DEAT had initiated a consultative process for formulating an environmental management policy for South Africa in 1995. This process led to the publication of a *White Paper on environmental management policy for South Africa* in May 1998 (RSA, 1998a). The National Environmental Management Act of 1998 (NEMA) was subsequently promulgated in November 1998 (RSA, 1998b). The NEMA includes a chapter on integrated environmental management (Chapter 5). The purpose of the chapter is stated as "... to promote the application of appropriate environmental management tools in order to ensure the integrated environmental management of activities" (RSA, 1998b:34), "activities" here meaning policies, plans, programmes and projects (RSA, 1998b:8). The EIA regulations issued on the basis of sections 21, 22 and 26 of the Environment Conservation Act of 1989 stand until a date when regulations under section 24 of the NEMA (on implementation of integrated environmental management) are promulgated (RSA, 1988b:64).

Thus, the intention of enacting an IEM Bill in 1999 have been subsumed under the NEMA. While the NEMA makes provision for the appraisal of PPPs, only environmental assessment of identified projects and of change in land use are currently required by law (RSA, 1997; Van der Merwe, 1999). Yet the spirit of the initial conception of IEM as a more holistic approach to environmental management into which EA is integrated which developed in South Africa during the 1980s is still retained in the NEMA.

4. Scoping is often stressed as one of the crucial elements for ensuring the effectiveness of EIA. The main purpose of the scoping phase is to determine the most important issues to be assessed in order to ensure coverage of significant impacts as well as viable alternatives to the project proposal under consideration. Scoping should involve all stakeholders, i.e. authorities concerned with the decision about approval of the project proposal, environmental experts and all interested parties, including those who will be affected by the project (Heydenrych & Claassen, 1998:23; Evers, 1989:98). It is recommended that a stakeholder task force be established at the scoping stage, which could further facilitate the representation of stakeholder interests throughout the EIA process, including coordinating public participation and integrating evaluation criteria for social acceptability into environmental criteria (Smith, 1993:184). Sound scoping will contribute to setting terms of reference for the EIA, including time limits, staffing requirements for the EIA study team and the approach to and parameters of the EIA. Other advantages of scoping are that it will improve EIA focus; decrease costs and prevent undue delays; ensure improved coordination among EIA team members; avoid the possibility of duplication; generate background information, and contribute to concise and well assessed EIA reports (Barrow, 1997:107; Bisset, 1996:17; Marriott, 1997:39). The determination of the scope of the EIA should be the responsibility of the EIA team, in order to prevent the project proponent from defining the scope too narrowly, thus excluding legitimate components from the study. The area of influence of the EIA should be defined widely enough to specifically include all ecosystems, even those that may be only partially affected, and all possible effects of the project, including unplanned and secondary ones (Goodland et al., 1996:7).

The South African approach in terms of IEM approaches scoping at an even wider level, namely that the scoping process should determine what "... decision-support instruments such as ... EIAs, ... SEAs, Environmental Optimisation Assessments ... and ... CBAs ..." should be used to generate the necessary information for environmental managers. In addition, scoping is regarded as the optimal phase in the IEM process to coordinate different requirements of interested authorities in relation to their respective responsibilities, and to integrate these with the concerns and expectations of other stakeholders and interested parties (Heydenrych & Claassen, 1998:23).

5. In the South African context, the IEM procedure is based on three stages in proposal development, namely:
 - Stage 1: Development and assessment of proposals, consisting of developing the proposal; classifying the proposal, with prescriptions for handling cases of "no formal assessment", "initial assessment" and "impact assessment"; undertaking the investigation, and producing the report.
 - Stage 2: Decision making, consisting of reviewing the report; preparing conditions of approval, and

- recording the decision.
- Stage 3: Implementation of proposals, consisting of implementing the proposal; monitoring the implementation, and periodically auditing the positive and negative consequences of implementation (Sowman et al., 1995:56-62).
6. Erickson (1994:30-36) identifies three generic tasks for achieving these objectives, namely management, analysis and integration. Management entails planning for individual tasks in the assessment process, scheduling time frames and budgeting. Analysis refers to describing components of systems, where experts focus on specific parameters and dynamic processes within their fields of expertise. Integration refers to "... holistic description of systems" (Erickson, 1994:33), where interrelationships between specific parameters and dynamic processes among environmental components are interpreted.
 7. Other methodologies referred to in the literature are:
 - Ad hoc procedures, i.e. teams of experts identify impacts in their fields of specialisation;
 - overlay techniques, i.e. sets of overlay maps on transparencies visually representing environmental factors;
 - modeling and systems analysis, i.e. developing models of systems and subsystems based on assumptions, objectives and criteria, often in computerised format;
 - aggregation (weighting and scaling) methods, i.e. combinations of numerical values for individual impacts into an indicator of overall impacts in an attempt to condense information on environmental factors into a manageable format;
 - adaptive environmental assessment and management, i.e. computer simulations for determining probable outcomes of alternative proposals, based on the results of workshops during which scoping, impact identification and evaluation are determined, thus handling the total EIA process under one methodological approach (Biswas & Geping, 1987:202; Canter 1996:59; Wathern, 1988:14,15);
 - extended CBA methods, described as useful for determining the need for a proposal and for comparing alternative proposals (Thomas, 1996:28).
 8. It is important to note that the description of the option of no development does not simply coincide with the description of the existing environment. An environmental survey under the no development option would still change over time, thus this option entails impacts in their own right that also need to be described in detail (Gilpin, 1995:18; Marriott, 1997:57).
 9. Three cautionary notes are in order here. The first is that analysts' understanding of physical and social environmental dynamics is limited, thus the analysis is characterised by uncertainty, also about the amount of information and analysis needed (Horberry, 1989:196). The second issue relates to significance: the stated goal of EIA is to analyse significant impacts rather than all potential impacts (Sheate, 1996:30). The concept of significance is not precisely defined in EIA guidelines or regulations, rendering it subjective in practice. Its conception usually depends in the first instance on the judgement of analysts. However, this is regarded as a professional opinion on the basis of professional insight and experience, influenced by the anticipated reaction of authorised decision makers, who are again influenced by public opinion and level of controversy attached to the issues. Thus the significance of impacts are determined by professional, political and public judgements (Gilpin, 1995:6). Lastly, the temporal and spatial elements of impacts need specific consideration. Time frames for the occurrence of impacts need to be clearly stated in EIA reports, having paid attention to the fact that environmental systems are dynamic and that changes would occur also in the absence of projects. Specification of the area(s) in which impacts are expected to occur is similarly important for predictive clarity (Wathern, 1988:7,8).
 10. Cumulative impact assessment (CIA) does not entail the simple addition of individual impacts, since the synergistic outcome of cumulative impacts depends on the nature of activities, i.e. whether they are delayed, continuous or repetitive. Since CIA should represent a holistic approach which focusses on dynamic interaction of effects from different developments, the methods used should go beyond those traditionally used in EIA to include, for example, scenarios, models, decision trees, extrapolative series and intuitive methods such as brainstorming (Thomas, 1996:42).

11. Social impacts are defined as "... all changes in structure and functioning of patterned social orderings that occur in conjunction with, or as a result of an environmental, technological or social intervention or alteration" (Stein, 1997:237). This includes such elements as value of land and residential property; employment opportunities; health effects; community cohesion; individual, group and community behavioural responses, etc. (Canter, 1996:502).
12. A more comprehensive set of mitigation measures which also focusses on enhancing beneficial impacts, include the following:
 - Avoiding resources and locations identified as environmentally sensitive, as well as developments that lead to adverse environmental consequences;
 - preserving specific resources or components of the environment;
 - limiting the duration, scope and size of adverse impacts;
 - rehabilitating resources affected by adverse impacts;
 - restoring resources affected by adverse impacts to a more stable state;
 - creating or protecting a resource at another location to compensate for its loss at a specific site;
 - improving the capacity of an existing resource to fulfill its environmental function;
 - augmenting an existing resource by increasing its size or area of existence;
 - developing environmental resources in locations where they do not exist;
 - diversifying environmental resources by increasing the species or habitats in a specific location (Erickson, 1994:240-243).
13. In this regard, Goodland et al. (1996:8,9) makes the point that EIA contracts should include a "whistle-blowers' clause" which facilitates early warning by EIA teams that it will not be possible to mitigate the adverse environmental impacts of a specific project appropriately. Rather than being penalised for whistle-blowing, the EIA team should be compensated for saving time and money by not waiting until the end of their contract period before coming forward with such an indication.
14. The first requirement for demonstrating fairness in decision making is that the project proponent should not be involved in the final decision. Furthermore, summary evaluations of the EIA process and EIS compiled by officials to support politicians responsible for decisions should be publicly available. A formal record of decision, including a statement of the decision and reasons for it, details on alternatives considered and conditions of approval such as modification and mitigation measures, should be compiled and published. It is also important that the deciding authority should have the power of refusal rather than only to impose conditions of approval (Jain et al., 1993:158; Wood, 1995:184).
15. Since a crucial feature of EIA is the creation of transparent decision making, a democratic system is more conducive to its effective application. This is because a democratic system allows opportunities for the public to openly access decision making processes and review government actions, make informed judgements on the basis of access to reliable environmental information and challenge the process and resultant decisions in an open legal system (Jain et al., 1993:179; Sheate, 1996:211).
16. Smith (1993:50-53) highlights the importance of "interest representation" in public policy making. He outlines a systems model of the policy process in which interest representation, in the form of public demands for political action by individuals and pressure groups, interacts with the political decision making system to result in policy outputs and outcomes. Thus, interest representation has an important role to play also in the EIA process in the sense that the latter is in essence a policy decision process. Interest representation in public policy making is characterised by pressure group lobbying. Since environmental groups are usually not as well resourced as private sector institutions and corporations, they cannot compete equally with such established pressure groups. This means that mechanisms have to be developed to ensure wider representation of lay citizens in public participation programmes (Smith, 1993:62-66). The author recommends that stakeholders should be empowered in decision making, making EIA a more open process, with interest representation as important as the substantive contents of the assessment. To effect these changes, stakeholders should attain formal representation in planning for EIAs, including identifying the issues and planning assessment approaches during the scoping stage. They should also be integrated into consensual decision making during the entire EIA process. Research

aimed at improving interest representation should address the question of appropriate representation of the public interest, justice and equity issues, power relations among stakeholders and training to improve participatory skills of stakeholders (Smith, 1993:75,187,188).

17. Other aspects to be taken into account when planning for public participation include identifying stakeholders to be involved at various stages; financial implications; timing of participation; structures and procedures of existing local informal and formal authorities; guidance of participation to ensure focus on the issues; compiling a clear plan for the practical implementation of the participation programme, and provision of feedback to stakeholders (Bisset, 1996:36; Canter, 1996:590).
18. During the 1980s public participation was increasingly regarded with suspicion because responsible authorities and project proponents rarely proved willing to devolve decision making power. Also, the not-in-my-backyard (NIMBY) syndrome strongly reflected in the EIA process as an unwillingness to participate because NIMBY groups did not want to legitimise a decision making process they regarded as prejudiced against them, leading to conflict between different groups (Barrow, 1997:75; Smith, 1993:71).
19. Another aspect investigated in the study was net beneficial impact, i.e. whether the EIA process added value to decision making to an extent that compensated for its costs. The result was that EIA had no net beneficial impact in 29 cases, i.e. the 21 cases with no direct impact plus another eight, which the project proponents regarded as too costly (in terms of money and time) regardless of its direct impact (Ten Heuvelhof & Nauta, 1997:25-28).
20. De Jongh (1997:50) supports the conclusion that EIA does add value to decision making. Willingness of decision makers to actively utilize the opportunities and results offered by EIA is critical in further improving the impact of EIA on decision making. In order to achieve this, EIA practitioners should communicate positive experience with EIAs to decision makers.
21. Other benefits of public participation are:
 - Providing a formal procedure for exchanging information;
 - clearly identifying major concerns, initial problems and controversial issues;
 - improving insight into potential impacts of proposed developments;
 - addressing public perceptions together with scientific reality;
 - identifying alternative designs or sites and appropriate mitigation;
 - providing valuable information on the values of local people;
 - clarifying trade-offs and values regarding different options;
 - providing a forum for resolving controversial issues;
 - supporting improved decision making;
 - establishing credibility of the EIA process;
 - enforcing agency responsiveness to issues of public concern;
 - creating accountability and transparency as well as ownership by local people for implementation of project proposals;
 - avoiding litigation (Bisset, 1996:35; Canter, 1996:588; Sheate, 1996:88; Thomas, 1996:46).
22. In terms of EIA processes, Wood (1995:9,10) suggests several evaluation criteria. Effectiveness criteria include contribution to decision making; accurate prediction of impact management effectiveness, and achievement of environmental management objectives by compensatory and mitigation measures. Criteria for evaluating efficiency are timely EIA decisions in relation to economic and other variables that determine decisions on project proposals, and reasonableness of EIA costs and of project implementation. Fairness criteria include equal opportunities for influencing all stakeholders, and equal access to compensatory measures for all affected people.
23. In addition to assessing the quality of EISs, the aims of the study were to establish whether the EISs limited EIA effectiveness and to recommend improvements in future. The 18 review criteria consisted of five sets, namely description of proposal, affected environment and baseline data; identification and

assessment of most important impacts; development options and mitigation measures; communication of results, and involvement in the process. Only five of the review criteria, i.e. development options; mitigation measures; presentation; balanced communication of adverse and beneficial impacts, and national expertise, were adequately handled by more than half of the EISs. A range of recommendations for improving EIS quality in relation to review criteria are included in the article (Guilanpour & Sheate, 1997:139-149).

24. It is recommended that impact assessment methods are improved through the following changes:
 - Developing more suitable methods for scoping, impact prediction and assessment of significance;
 - handling impact prediction, significance measurement and effects evaluation as discrete activities in the EIA process in order to contribute to increased scientific quality;
 - focussing the EIA study on its terms of reference, specifically on impacts;
 - predicting the magnitude and probable occurrence of impacts and their effects on the area and on local people in quantified terms;
 - assessing the significance of impacts for each development option on the basis of solid data;
 - revising scaling and weighting approaches used in the evaluation phase;
 - revising monitoring and compliance approaches and regulations (Bisset, 1996:17,18; Smith, 1993:189).
25. The availability of reliable data and information from universities, research institutions and the public should be determined as a starting point (Evers, 1989:99). The impacts to be investigated should form the main focus of baseline studies of environmental conditions in the proposed project area (Bisset, 1996:17).
26. Four sets of review criteria covering 30 indicators, namely general performance; analysis and synthesis; evaluation, and impact management, were used. The author recommends that these aspects should be included in the development and administration of EIA laws, regulations and implementation guidelines (Lawrence, 1997b:224-230).
27. Impact scoping; data collection and interpretation; description of baseline conditions, and impact identification and prediction were handled better (Lawrence, 1997b:229).
28. The EIA system in Japan represents the extreme case where consideration of alternative project design, site or mitigation measures is not required, resulting in a situation where project proponents are under no obligation to find the most environmentally acceptable option (Barrett & Thérivel, 1991:152).
29. In order to improve the monitoring situation in Africa, the systematic collection of baseline data and development of data banks are recommended, as well as the coverage of the full project cycle during monitoring and proper budgeting for monitoring and evaluation of EIA (Kakonge, 1994:297,301; Thomas, 1996:189). An impact monitoring programme including mitigation and the effects thereof as well as technical and institutional elements of monitoring should be developed to improve the situation in developing countries in general (Bisset, 1996:17,18).
30. Thus research into new impact monitoring methods is essential, as is empirical investigation into existing methods, such as Geographic Information Systems (GIS), to improve monitoring and impact mitigation as well as to review existing monitoring and mitigation approaches in relation to their usefulness as impact management strategies (Smith, 1993:189).
31. This has been stated to be the case in Japan, where EIA has not succeeded to influence power relations in the environmental political context (Barrett & Thérivel, 1991:156).
32. Other problems and constraints encountered with public participation are that developers may manipulate the process to serve as justification for their decisions; public opinion may be manipulated by pressure groups, and EIA could be used to suppress the influence and power of political groups objecting against environmental change caused by development. Identifying and actively involving all relevant stakeholders may also prove problematic. Effective communication is complex in situations where the public is diverse in terms of language and culture. Preparation for involvement may be necessary if the public is illiterate

- or ill educated, or lack awareness and understanding of the issues and/or participatory skills (Barrow, 1997:74,75; Bisset, 1996:35; Clark & Herington, 1988:4). Also, because of the usually long duration of EIA processes, the public may lose interest in participation. It thus becomes a challenge to ensure continuity of involvement by different public sectors (Barrow, 1997:75; Canter, 1996:601).
33. Basic principles for the evaluation of EIA processes also include allusions to EIA systems. They comprise the following:
- Effective EIA processes should support an integrative approach to all environmental considerations and aim to achieve and maintain sustainability at local, national and international levels;
 - requirements for assessment should apply to planning and decision making of all actions that may be environmentally significant and affect sustainability, whether legally required or not;
 - alternatives should be comparatively assessed in order to identify the best option, not simply alternative proposals that may be acceptable;
 - requirements for assessment should be enforceable, mandatory, specific and legally prescribed;
 - openness, participation and fairness should characterise all assessments and decision making;
 - conditions of approval should be enforceable, compliance during implementation should be enforced and impacts monitored;
 - the design of the EIA process should enable its efficient implementation;
 - the process should provide for integrating assessments into a broader context of managing and regulating existing and new actions, including setting overall environmental and socio-economic objectives (Wood, 1995:10).
34. Other conclusions were that the EIA process was often not integrated into project planning and design from early on; that mitigation measures were often inadequate; that public participation was weak in some cases; that EISs were not always readily available, and that the EIA process and EISs were not adequately controlled for quality. The author adds that, since weaknesses in the EC Directive, i.e. scoping, definition of projects to be subjected to EIA and requirements for monitoring after project implementation, were not addressed by the review, the exercise failed to transform the Directive into an effective instrument for attaining sustainability (Sheate, 1996:43).
35. On the other hand, it has also been stated that EIA was introduced faster in some developing countries than in developed countries, mainly because fewer procedures for physical planning were established which meant that EIA could be incorporated without major re-organisation (Barrow, 1997:166). Sheate (1996:212) states that there is, in fact, long experience of EIA in some developing countries, for example, Kenya and Malaysia, contrary to the common misconception of little EIA experience in these countries. The point is also made that developed countries should not approach EIA in developing countries paternalistically, since they can enrich their own EIA practice by learning from innovations in developing countries. One example is the development of participatory methodologies for using local experience in EIA (Barrow, 1997:199,218; Sheate, 1996:213).
36. The most important actions to be undertaken, in order to remedy the problems besetting EIA in developing countries focus on establishing appropriate legal and institutional frameworks and encouraging public participation through improving access to environmental information, e.g. by setting up environmental data banks (Kakonge & Imevbore, 1993:305-307). Public participation can further be improved through better review procedures and integration of EIA into planning cycles and decision making processes (Barrow, 1997:199; Wood, 1995:304,305). Training and building national capacity for EIA implementation are other crucial factors, as is the need to develop methodologies that are suitable to developing country conditions (Sheate, 1996:213; Wood, 1995:304). Effects of EIA in developing countries can be enhanced by formulating viable alternatives early in the project planning cycle; assessing consequences of various alternatives for different affected groups; promoting plans for environmental management and mitigation, and efficient screening procedures (Fuggle, as quoted in Barrow, 1997:201). In addition, monitoring of compliance to conditions of approval as well as of EIA systems will enhance EIA effectiveness in general (Wood, 1995:306).

37. Additional limitations regarding EIA in Zimbabwe are the exemption of transboundary impacts, especially in relation to main river systems, and development activities in free trade areas from EIA, as well as the prominence of economic development as an overriding goal of developing countries (Churie, 1997:104,105).
38. In an article on quality control mechanisms for EIA, Leu et al. (1996:2-12) identified key elements of effective EIA systems. These include the context of environmental policies and regulations as well as technical guidelines; institutional arrangements; clear definition of EIA procedures, including all the main stages; allocation of specific responsibilities to different stakeholders; clear guidelines for the contents and format of EIA reports; enforcement and monitoring of EIA compliance; effective practical implementation of EIA, which is influenced by political, social, economic and cultural factors as well as the attitudes and experiences of stakeholders; availability of the necessary human, financial and infrastructure resources for executing EIA; strategic environmental assessment, and international interaction which influence effectiveness of development and implementation of EIA at the national level. The authors proceed to develop a system of nine quality control mechanisms, i.e. legislative control (the legal basis of the EIA system); procedural control (stipulation of clear stages to be undertaken in the EIA process); evaluative control (pre-assessment, assessment and post-assessment of proposed project and EIA system audits); professional control (capacity of EIA stakeholders); control by the public and organisations (public participation and contributions of organisations in improving EIA effectiveness); administrative control (key government agency management and administration of EIA systems); judicial control (ensuring judicial redress and fairness); follow-up control (compliance enforcement and monitoring), and international control (international support and pressure for initiating, developing and building capacity of EIA systems at national level). These mechanisms can be utilised to evaluate an existing EIA system in terms of effectiveness, comprehensiveness and completeness.
39. The timing of EIA is crucial in this regard. The EIA process should be initiated early in project planning and design in order to better integrate it into economic, technical and engineering feasibility studies and to enhance its effect on decision making (Evers, 1989:98; Jain et al., 1993: 179; Schweizer, 1985:4).
40. Social impact assessment suffers from a range of other difficulties, including ongoing confusion about its definition and characteristics; absence of wide support and legitimacy; application and implementation problems; unavailability of data; lack of societal recognition of the worth of individual communities in relation to physical development (Stein, 1997:246).
41. While there are proponents of both sides of the debate, i.e. for integrating SIA and EIA as well as for approaching SIA as an appraisal instrument in its own right, there seems to be consensus that social impacts should be included in EIA. Integrated assessment is preferred by a number of authors in order to retain the unity achieved after persistent efforts early in the evolution of EIA to ensure that EIA is undertaken by multi-disciplinary teams, but on condition that social impacts are thoroughly assessed and not overridden by consideration of environmental and economic impacts in the final decision making phase (Goodland et al., 1996:7; Stein, 1997:261). The interrelatedness of social and environmental impacts relates closely to the concept of sustainable development, thus social and environmental impact assessment should be integrated into a single framework which extends to post-implementation monitoring. Social impacts should be integrated into the full project cycle, including monitoring, management of mitigation and effective community participation in post-implementation phases of monitoring and management (Morvaridi, 1997:241-244).
42. Under the weak model, social, economic and environmental assessments proceed alongside one another, each defining objectives separately and using separate sets of evaluation criteria. This leaves decision makers much discretion as to how to consider the findings of the separate assessments in the final decision on approval (or not) of the proposed project. Under the strong integration model, setting of objectives for the proposed project, data collection, impact prediction and evaluation are all handled in terms of an integrated framework. For example, a set of criteria combining social, economic and environmental objectives is used as a basis for the overall evaluation of the proposed project. The results of this overall assessment must be used by decision makers, and reasons justifying their final decision

published (Lee & Kirkpatrick, 1997a:11-13).

43. The purpose of such research is improved knowledge and understanding of the interrelationships between social, economic and environmental systems; enhancement of the integrative use of current methodologies, and the improved availability of data (Lee & Kirkpatrick, 1997a:19,20).
44. Further limitations pointed out by Smith (1993:1,92,93) include the following:
- Environmental and social factors are not included as significant criteria in designing projects, leading to limiting the number and scope of alternatives being considered;
 - while baseline environmental conditions are described in detail, succinct predictions of environmental impacts are lacking;
 - the assessment of the significance of impacts is scientifically poor;
 - EIA is seen as unable to handle uncertainty, especially in predicting impacts, assessing significance and overall evaluation;
 - institutional deficiencies result in long reviews and approval processes which frustrate project proponents;
 - equity issues are not adequately treated in EIA processes;
 - mitigation and monitoring are often routinely covered as similar measures, and monitoring and auditing are inadequately followed up.
45. In relation to problem identification, its tractability, justification of real need, media and public attention to issues as well as the availability of information are factors to consider. In resource management, institutional arrangements represent its context while interest representation provide the political pressure to ensure its implementation in the political process. The goal of sustainability focusses resource management on balancing environmental, economic and social objectives (Smith, 1993:96-102) .
46. As early as 1987 Biswas and Geping referred to the acceptance of sustainable development as guiding principle in developing countries which have to develop economically and socially in order to improve their citizens' quality of life. They cite EIA as a tool that can contribute to integrating environmental considerations into planning and management so that social and environmental needs can be met sustainably in the long run (Biswas & Geping, 1987:ix,x,191,192). In another publication of that time, EIA is presented as contributing to information necessary to define environmental limitations to sustainable development (Evers, 1989:95).
47. The question of fair distribution of environmental benefits and risks holds specific implications for EIA, particularly the assessment of social impacts. The first is that these issues are not readily quantifiable, thus increasing the emphasis on presenting crucial information in EIA studies in qualitative terms. Furthermore, environmental equity represents an important type of social impact which necessitates special consideration of race, culture, sex and age (in terms of both intra- and intergenerational equity) in relation to the social distribution of environmental risks and hazards. Also, social equity has to be considered equally with the traditional aspects of the natural environment normally considered in setting environmental standards, particularly in regard to risk distribution relating to waste disposal and pollution control. Similarly, environmental equity in terms of the fair distribution of both adverse and beneficial impacts has to become one of the criteria used in determining impact significance. Demographic variables to be incorporated into this exercise include age, ethnicity, geographical location, income, indigenous people, occupation, race, religion, sex and social class (Erickson, 1994: 8,28,44,68,156). Equity is again an important factor in the assessment of the significance of the social impacts of a proposed project. The following should be taken into consideration in this regard:
- Justice/fairness of social distribution of risks and benefits;
 - opportunities for people to achieve their personal objectives by using their environment (natural and socio-economic), in contrast to simply having to endure an environment that does not allow options for objective achievement;
 - the long term impact on future generations;
 - the capacity of local communities to avoid those impacts they regard as detrimental.
- It should be noted that the analysis of economic impacts in EIA usually fails to consider the allocation of benefits, i.e. no indication is given of who benefits from savings in resources used for production.

Another typical omission in economic analyses is the distribution of costs and benefits. Lastly, it is crucial that the people affected fully understand the benefits and risks associated with the proposed project for impact assessment to be effective (Erickson, 1994:185,205,206).

48. The implications of power relations in resource utilisation is highlighted in the case of Canadian aboriginal people. Here, both race and culture are determinants of social equity. The Canadian Environmental Assessment Act (CEAA) promulgated in 1995, repealing the previous Order, attempted to redress some of the problems experienced in EIA application. However, it failed to provide a specific niche for aboriginal people as a priority sector of the general public. It is thus recommended that special measures should be included in EIA regulations to ensure that the environmental interests of aboriginal people receive both legal protection and political recognition. In particular, traditional environmental knowledge should be collected and used as part of the EIA process and aboriginal people should be afforded opportunities to access and control information collection and decision making in the EIA process. To achieve these objectives, aboriginal people should be enabled to present their cases, publicly examine other evidence presented and be represented in formal EIA structures, as well as receive sufficient funds to engage in these activities (Gertler, 1997:226-236). For an excellent critical analysis of the role and influence of power in decision making processes in a developed country, see Bent Flyvbjerg's book *Rationality and power: democracy in practice* (Chicago: University of Chicago Press, 1998).
49. The issue of power relations in resource usage can be approached from the point of view of culture, making the issue specifically relevant to developing countries. The question of the inclusion of rural communities in EIA processes is specifically highlighted. It is argued that the scientific and Western ethnocentric basis of EIA entails a severe bias against indigenous people, particularly in cases of rural development. Since the process is almost always initiated from the outside and dominated by experts, it alienates the disadvantaged and less articulate. It also ignores perceptions and aspirations rooted in local cultures. Thus, particularly in the case of rural development projects, the EIA process should focus on real participation of local communities who are not sophisticated in analysis, science and legal processes. The importance of rural community involvement in resource relations should be recognised. To achieve these ends, communities should have a grounded sense of their capacity to significantly affect their own resource relations, they should be enabled to express their collective aspirations for their future, and proposed projects should be evaluated in terms of the desired futures of these communities (Meredith, 1992:125,126,129,137).

CHAPTER 3

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

3.1 Introduction

In this chapter, the theory and practice of strategic environmental assessment (SEA) are analysed. Section 3.2 contains a description of SEA in the form of its definition and purpose (subsection 3.2.1), its historical development (subsection 3.2.2) and the SEA process and procedures (subsection 3.2.3). The steps or activities in the SEA process are firstly described in the latter subsection, whereafter SEA of plans and programmes are discussed, including SEA of structural adjustment programmes. The subsection is concluded with a discussion of SEA of policies. An analysis of the strengths of SEA is presented in section 3.3, while the limitations and weaknesses of SEA form the focus of section 3.4. The main conclusions emanating from the analysis of SEA are briefly summarized in the concluding section of the chapter (section 3.5).

3.2 Description

3.2.1 Definition and purpose

SEA basically entails the appraisal of the environmental consequences of programmes, plans and policies (PPP), i.e. EIA at the strategic level above concrete projects (Bisset, 1996:44; Lee & Walsh, 1992:126; Thérivel & Partidário, 1996:4,5). The most widely quoted definition describes SEA "... as the formalized, systematic and comprehensive process of evaluating the environmental impacts of PPPs and its alternatives, including preparation of a written report on the findings of that evaluation, and using the findings in publicly accountable decision-making" (Thérivel et al., 1992:19,20).

In SEA terminology, policies, plans and programmes are regarded as a hierarchical categorization of actions, with policy at the highest level as rationale for and broad approach to action, a plan the objectives against time-scales for policy implementation, and a programme a group of projects that will operationalise the plan. These distinctions are used for indicating levels or tiers of actions

(Bisset, 1996:43,44; Lee, 1989:2; Thérivel, 1997:151; Thérivel & Partidário, 1996:5).

McCarthy (1996:154,155) raises the point that the formal practice of EIA seems to form the basis for the above definition. However, in practice SEA is also applied as an informal process without necessarily culminating in a full report or entailing public participation because of the confidentiality of certain policies. Yet such applications could still be regarded as SEA. Thus the author suggests that a less rigid definition of SEA may be more generally acceptable, e.g. "... a systematic process of evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision making on par with economic and social considerations" (Sadler & Verheem, as quoted in McCarthy, 1996:154).

The main reasons for introducing SEA fall into two categories, i.e. as an improvement on project-level EIA, or as an instrument to implement sustainable development (Lee & Walsh, 1992:128; Thérivel & Partidário, 1996:8).

As already discussed in Chapter 2, project-level EIA is limited in its scope. It is unable to deal satisfactorily with cumulative impacts of many smaller projects, impacts induced by development activities flowing from major development projects, and transboundary or global impacts. Because EIA is reactive in relation to specific project proposals, alternatives are already limited by earlier decisions. In addition, development actions that are not formulated as projects, e.g. agricultural management practices, are not subjected to EIA even though they may significantly affect the environment (Lee & Walsh, 1992:129,130; Thérivel et al., 1992:20,21; Thérivel & Partidário, 1996:8). It is generally believed that SEA can serve to overcome shortcomings related to the limited scope of project-level EIA.

The second main reason for the growing interest in and experimentation with applying SEA is that it is regarded as a promising measure for incorporating sustainability into development. This approach ties in with the need to integrate environmental, social and economic considerations in planning and resource management referred to in the discussion of the conceptual basis of EIA (subsection 2.4.3 of Chapter 2).

Because of its reactive nature at the lowest development tier, EIA is severely limited in the extent to which it can actually prevent environmentally degrading development. Sustainable development should be implemented through integrating environmental considerations into the higher tiers of policy making and planning, allowing sustainability as a basic principle of development to be fed into the lower tier of specific projects (Thérivel et al., 1992:126; Thérivel & Partidário, 1996:9). SEA is an instrument that can ensure that strategic decisions about the direction of development adhere to sustainability criteria, thus creating a context for development projects that enhances sustainable development (Thérivel et al., 1992:22,23).

Sustainable development implies consistency and integrated achievement of environmental, social and economic aims. At the policy making and planning level, SEA should strengthen appraisal procedures and methods for integrating environmental, social and economic considerations in order to promote sustainable development (Lee & Walsh, 1992:130,131). This should occur concomitantly with determining carrying capacity in relation to regions and resources; setting environmental targets and quality objectives; promoting the balanced achievement of environmental and economic development goals, and the increased use of economic instruments to enhance the sustainability of economies (Lee & Walsh, 1992:131; Thérivel et al., 1992:124,125; Thérivel & Partidário, 1996:9,10). National commitment to sustainable development principles should provide an enabling context for such an approach. SEA can effectively reinforce sustainable development only if the integration of environmental concerns into policies and planning approaches precede its application (Thérivel & Partidário, 1996:9,10). It is especially important that all government policies, not only environmental policies, contribute to overall sustainability goals. SEA is regarded as an instrument that can contribute to consistently integrating the pursuit of such goals (Hamblin, 1997:46).

The purpose of SEA is thus twofold: to ensure that environmental, social and economic considerations are integrated into development policies, plans and programmes, and to contribute to the achievement of sustainable development (Abaza, 1996:218).

In line with its purpose, the scope for SEA application is wide. In addition to strategic development planning activities encapsulated in PPPs, SEA should be applied to sectoral and

regional planning; programmes for privatisation of government activities; structural adjustment programmes; national budgets; international treaties and conventions; activities of transnational corporations (Abaza, 1996:218); fiscal policies (Thérivel et al, 1992:38); new technologies (Thérivel & Partidário, 1996:5), and trade agreements (Bisset, 1996:44). Appraisal of policies which do not necessarily lead to specific projects which will be subjected to EIA is especially important, e.g. fiscal and privatisation policies (Thérivel et al, 1992:38).

3.2.2 Historical development

Interest in the notion of applying systematic environmental appraisal to government policy making and planning activities grew over time due to the realisation that the environment and the economy interact in complex ways, and that government activities have important international implications. This combined with existing concerns about the need for public participation in policy making. At the same time, governments moved towards more comprehensive policy assessment, including consideration of different policy approaches and their associated costs and benefits in terms of environmental, social and economic implications in order to improve accountability (Thérivel et al., 1992:33).

Although the NEPA which instituted EIA in the United States in 1969 provided the legal basis for programmatic environmental impact statements (PEISs) (Thérivel & Partidário, 1996:22), the application of SEA has not spread as rapidly to other countries as EIA did during the 1970s and 1980s. In fact, SEA systems are generally not fully developed in most developed countries (Wood, 1995:286). At this stage of its development, many SEAs are still undertaken voluntarily, and mainly by public agencies. In some countries official guidelines have been developed; however, there are still very few examples of legislation prescribing SEA (Thérivel & Partidário, 1996:181).¹

A tiered approach to planning, under which policies, plans and programmes are subjected to SEA while EIA is applied to projects, and which cascades from policy at national level to regional strategic plans, sub-regional programmes and local infrastructure projects, was already advocated in 1978. Under such a comprehensive EIA system, SEA would also be applied to land-use plans

and sectoral and multi-sectoral PPPs (Lee & Wood, as quoted in Schweizer, 1985:346,347 and in Wood, 1995:266,267; Lee & Walsh, 1992:131).

The original intention of NEPA was to reform government policy making by ensuring consideration of environmental consequences throughout planning processes and in high level decision making (Webb & Sigal, 1992:138). The concept of tiering was tested in court, and incorporated into new NEPA regulations issued by the Council on Environmental Quality in 1979. Although these regulations apply to all US federal agencies, there are no PEIS-specific guidelines, leaving the preparation of PEISs largely to the discretion of federal agencies. Agencies have not used this approach widely (Jain et al., 1993:193; Webb & Sigal, 1992:138).² Yet certain federal agencies have issued their own guidelines for PEIS preparation. For example, the US Forest Service has instituted a tiered SEA system for its programmes and plans, resulting in the preparation of close to 500 SEAs from 1970 to 1992 (Thérivel, 1993:149). About 36 PEISs have been completed per year between 1979 and 1987 (Wood, 1995:274). However, SEA has not been applied to the development of overarching government policies which set long-term national goals (Webb & Sigal, 1992:140).

Many developed countries with well developed EIA systems also make provision for SEA in various guises. Examples are Austria, Canada, Finland, France, Germany, New Zealand, Norway, Portugal and the United Kingdom (Goodland et al., 1996:4; Thérivel, 1993:151,157-161; Thérivel & Partidário, 1996:20). In Australia, Japan and Hong Kong SEA systems of an *ad hoc* nature have been developed, but cannot be described as full-blown SEA (Thérivel, 1993:161).³ The Netherlands is generally regarded as world leaders in SEA (Goodland et al., 1996:12)⁴, while the State of California has the most long standing experience in the field (Thérivel, 1993:147-149; Wood, 1995:274-276).⁵ Sectoral environmental assessment started in the mid-eighties as a subset of SEA (Goodland et al., 1996:12).

The European Commission (EC) tried to incorporate SEA in its original Directive on EIA, but initial attempts were unsuccessful due to objections from some member states (Thérivel, 1993:151).⁶ After prolonged negotiations, the EC finally (in December 1996) agreed on a SEA Directive which applies to plans and programmes for land-use that affect the siting and nature of

projects (Thérivel, 1997:151,160).

In Central Europe, recent political changes have led to large scale privatisation of government activities and infrastructural development. During the nineties a number of Central European countries, notably the Czech Republic, Hungary, Poland and the Slovak Republic, have introduced SEA requirements and guidelines. Relevant experience has been gained in SEAs of privatisation, national PPPs and policies, as well as the industrial and agricultural sectors (Thérivel, 1997:152,158,159).⁷

In developing countries there is little experience in the application of SEA, mainly because its institution has been constrained by lack of financial and human resources. However, donor agencies are promoting environmental appraisal in relation to planning; notably, sectoral EIAs in transport, energy and industry have increased under the World Bank. Interest in SEA, particularly of regional development plans, has grown substantially in developing countries (Goodland et al., 1996:5; Wood, 1995:307,308).

The position in South Africa is as follows: In the discussion document *A national strategy for Integrated Environmental Management [IEM] in South Africa* of the Department of Environmental Affairs and Tourism (DEAT), SEA is regarded as one of the decision-support instruments within a broader environmental planning and resource management regime. However, the proposal regarding activities to be managed through IEM include only land use zoning plans and schemes, proposals for new developments or projects, existing developments that warrant review and activities related to land use zoning plans and schemes already approved under IEM. Although government policies are referred to in the document, there is no prescribed procedure for the appraisal of their environmental impacts, except for policies with spatial implications that are included under land use zoning plans and schemes (Heydenrych & Claassen, 1998:14,15,43-46). Despite this limited approach to SEA, the National Environmental Management Act of 1998 (NEMA) which was subsequently promulgated and which contains details on IEM does provide a broad framework for the appraisal of PPPs. However, regulations for SEA have not yet been issued, thus SEA of policies, plans and programmes is not yet legally prescribed. SEA is currently being investigated by the DEAT in cooperation with the Council for Scientific and Industrial

Research (CSIR) with a view to developing guidelines for its implementation (Van der Merwe, 1999).

3.2.3 The SEA process and procedures

The steps or activities in the SEA process can be approached to coincide with that of project-level EIA. This would entail the six broad stages of determining whether a SEA is required for the proposed PPP (screening); scoping the issues to be covered in the assessment; implementing the SEA study; preparing the SEA report; reviewing the report, and deciding on the proposed PPP (Lee & Walsh, 1992:132,133). A clear description of the PPP's objectives is an important step that precedes the scoping phase. As with EIA, the stage of undertaking the SEA study encompasses a variety of detailed activities, including establishment of targets and indicators; description of current environmental baseline conditions; identification, prediction and evaluation of impacts; identification and comparison of feasible alternatives and their potential environmental effects; proposals for mitigation, and development of an appropriate monitoring programme (Bisset, 1996:51,52; Thérivel & Partidário, 1996:6).

Screening can be done through the list method or the definition method. The first method lists topics of PPPs that require SEA, leading to easy identification and clarity. However, PPPs that may have significant environmental consequences may be missed through this method. In the definition method PPPs that require SEA are more comprehensively defined. While broadening the scope of SEA application, this method may lead to problems in determining which specific PPPs require SEA (Thérivel, 1993:162).

Describing a PPP's objectives may not be as straightforward as expected, since objectives are sometimes unstated and implicit, or form a hierarchical order involving balanced environmental, social and economic priorities. PPP objectives can sometimes only be stated in vague terms; in other cases they may be expressed quantitatively as measurable targets.⁸ However, for the effective application of SEA it is essential that PPP objectives are explicitly stated. To achieve this, it is necessary to list known objectives; to identify and deduce objectives through consultation with the relevant authorities and the public, as well as from secondary sources; to

distinguish between primary and intermediate objectives, and to link the PPP objectives to objectives of higher and lower tier PPPs (Thérivel & Partidário, 1996:31-33).

Environmental indicators are useful for describing and measuring the baseline environment and predicted impacts, for comparing alternatives and for monitoring the PPP's implementation against its objectives. Existing monitoring programmes, relevant environmental regulations or the environmental objectives of the PPP can form the basis for the development of appropriate indicators (Thérivel & Partidário, 1996:36,37).

The description of the current and future environmental baselines is used as a benchmark for evaluating expected impacts of the PPP. Existing environmental problems are identified and used for predicting and monitoring impacts. The description should focus on the major environmental issues identified through scoping. Both the current environmental conditions and the expected future conditions without the implementation of the PPP should be covered (Thérivel & Partidário, 1996:37,38). The large scale of SEA may complicate the description of the environmental situation in the affected area (Verheem, 1992:152). While the amount of detail, especially in quantitative terms, of baseline descriptions may be inhibited by the range of impacts and large areas covered by PPPs, it remains important to include enough detail for use in predicting, evaluating and monitoring impacts (Thérivel & Partidário, 1996:37,38).

A major challenge in SEA is to identify the most critical issues and impacts to be analysed. Thus the scoping phase is crucial for SEA effectiveness. A PPP normally covers a wide area and diverse activities at various geographical levels. The range of options and their potential impacts to be considered are also much wider than for projects. It is therefore essential that those impacts that will affect decision making most pertinently be identified at the outset for more detailed assessment and evaluation (Thérivel & Partidário, 1996:35,36).

Three main types of impacts could be addressed in SEA, namely impacts traditionally covered in EIA; impacts related to sustainability, focussing on the threat of cumulative, secondary or irreversible impacts to resources, and impacts related to policy, i.e. effects of policies on one another (Thérivel, 1993:163). During impact prediction the type and magnitude of likely impacts

are established. This should include adverse and beneficial impacts, direct and indirect impacts, cumulative impacts and impacts induced by the proposed PPP. Given the limitations of project EIA in this regard, prediction of indirect and cumulative impacts should form a specific focus of SEA (Thérivel & Partidário, 1996:39,40).

It may be practical to describe impacts qualitatively rather than quantitatively in SEA. Such descriptions would be more general and indicative rather than specific (Verheem, 1992:152). It is more complicated to identify and predict the probability of impacts for PPPs which do not directly translate into specific projects. PPP consequences should be analysed qualitatively in order to accommodate the high levels of uncertainty. Expert judgements based on specific criteria, such as the precautionary principle, coupled with inputs from stakeholders, should be used (Bisset, 1996:47,48).

Impact evaluation focusses on appraising the significance of impacts. Determination of significance usually entails evaluating the type and magnitude of impacts against the sensitivity of the environment through expert judgement which brings environmental regulations and carrying capacity, equity, the objectives of the PPP and public concerns into play. Because the evaluation of impacts relies on value judgements and assumptions, it is important that the underlying values and assumptions should be clarified and made explicit in SEA (Thérivel & Partidário, 1996:41,42).

The identification and thorough evaluation of feasible alternatives to the proposed PPP is essential in order to finally choose the most sustainable manner to achieve the objectives of the PPP as well as an appropriate balance between different, sometimes conflicting, priorities (Elling, 1997:162; Sheate, 1992:172; Sheate, 1996:172; Thérivel & Partidário, 1996:33). Alternatives should be realistic and viable. Since alternatives at the strategic level involve broad approaches rather than specific design and siting, as in the case of projects, a wide range of options may be possible. Thus it may be necessary to initially focus on extremes in order to grasp a wide indication of potential consequences. In the final analysis, the choice of alternative is a political process in which the environmental, social and economic consequences of a PPP are balanced out (Thérivel & Partidário, 1996:33,34,41,42).

SEA intends to overcome EIA limitations through considering the avoidance of adverse impacts at an earlier, more strategic stage. Mitigation measures should thus firstly aim to avoid adverse environmental impacts before consideration is given to their reduction, repair or compensation. Ways of identifying appropriate mitigation measures include reviewing completed EIAs and SEAs and consulting experts, environmental agencies and the public (Thérivel & Partidário, 1996:42,43).

The objectives of monitoring are to assess the achievement of PPP objectives and targets; to ensure implementation of mitigation measures; to identify adverse effects that need to be reassessed; to indicate the necessity for modifying PPP implementation, and to provide feedback on impact prediction, thus strengthening future performance in this regard. Monitoring programmes must be established to provide the necessary data, either by setting up new programmes or using existing monitoring data collection schemes. Although monitoring forms an important element of SEA, its implementation is still limited in practice (Sheate, 1996:176; Thérivel & Partidário, 1996:43).

The above description of SEA can be characterised as an EIA-based or standard model of SEA, since it basically follows the same approach and steps as project EIA. Two other types of models described in the literature are the integrated or equivalent model, which attempts to incorporate SEA into each of the various steps of decision making in the policy making or planning process, and the formally integrated or environmental management model in which an attempt is made to use SEA as a framework for adjusting policy making and planning into a more transparent and strategic process directed by sustainability objectives. The latter is an ideal not yet realised in practice. The existence of such different models or approaches implies that the concepts and components of SEA are still evolving (Elling, 1997:162; Thérivel & Partidário, 1996:11,12).⁹

SEA methodology coincides largely with that of EIA, but the detail will differ since it is important that only appropriate information for the particular strategic level is included (Sheate, 1996:176). The use of SEA techniques are dependent on the availability of environmental data. Development of integrated data bases is important in this regard (Thérivel & Partidário, 1996:184,185). Techniques are often non-quantitative in situations where relevant baseline data are scarce, and

also because of the strategic nature of SEA (Thérivel, 1997:159).

Two broad types of appraisal methods could be used in SEA, namely those adapted from project EIA, e.g. checklists, matrices and network analysis, and those adapted from policy making and planning analyses, e.g. geographic information system (GIS); scenarios and simulation analysis; systems modelling; regional forecasting; land suitability analysis, and techniques for evaluating policies and programmes (Lee & Walsh, 1992:134). Expert judgement, consultation with the public, overlay maps, literature overviews, comparison with impacts of similar PPPs and checklists are the techniques available for scoping of major impacts (Thérivel & Partidário, 1996:36). Techniques for baseline description include written reports, maps and visual representation in the form of GIS (Thérivel & Partidário, 1996:38). Checklists, overlay maps or GIS, indexes and indicator or weighting methods, computer models, expert judgements, scenario analysis and compatibility assessment, which tests the internal consistency of PPP components, are techniques to be used in SEA impact prediction and evaluation (Thérivel & Partidário, 1996:39,40). Methods for identifying options include consideration of expert opinions and public input and more specific techniques such as matrices regarding goals achievement and CBA (Thérivel & Partidário, 1996: 34). Comparison of alternatives can be facilitated through ranking impacts of alternatives, comparing impacts of alternatives in pairs, weighting methods and expert judgement (Thérivel & Partidário, 1996:42).¹⁰

There are as yet few guidelines on SEA methodologies, reflecting the fact that SEA methodologies are not well developed and that there is no general consensus on the matter. This is largely due to the theoretical focus on SEA rather than practical consideration of its application (Thérivel, 1993:164). The fact that SEA methodologies are currently still based on those for EIA retards the development of its own status independently from project-level EIA. Life-cycle analysis, exclusion zoning and compatibility matrices are examples of techniques which are better oriented towards strategic appraisal of PPPs (Thérivel & Partidário, 1996:185). An important aspect related to SEA methodologies, in addition to the fact that it needs different expertise than EIA, is that its broader scope and strategic nature require more in-depth cooperation amongst government agencies than EIA. Thus formal communication channels between various agencies should be developed to assist the effective application of SEA (Thérivel, 1993:164).

In addition to uncertainty about the link of PPPs with specific projects already referred to in the discussion on impact prediction above, other areas of uncertainty include changes in future economic or political priorities and in technological developments; carrying capacity; the consequences of other PPPs and projects, and the future environmental baseline. Techniques used to reduce and communicate uncertainty in EIA are also applicable to SEA, e.g. sensitivity analyses, which ensure that the results of predictions are not unduly affected by changes in assumptions underlying the predictions; preparation of contingency plans; basing “worst-case” scenarios on the precautionary principle; using ranges rather than precise figures to reflect uncertainty of predictions, and using different scenarios about potential future conditions as the basis for predictions (Thérivel & Partidário, 1996:40).

The contents of the final SEA report should commence with the description of the PPP, its objectives, the need for the particular PPP and its feasibility. This should be followed by alternatives to the PPP, a description of the scope of the PPP, e.g. its regional or sectoral focus, and the relation of the PPP and the SEA to other PPPs and environmental issues. The baseline description of the environment should precede reporting on the environmental effects of the PPP and its alternatives, followed by impact evaluation. Proposals for mitigation and recommendations should conclude the report (Thérivel, 1993:162,163). It is important that the environmental impacts of the proposed PPP and its alternatives are presented in a relevant format for decision making at the strategic level, the level of detail and type of information necessary for strategic decision making having been carefully scoped (Verheem, 1992:153). In addition to the above overview of SEA report contents, the SEA should provide information on concrete projects linked to the PPP in order to facilitate insight into cumulative or synergistic effects of clusters of projects and the consideration thereof in strategic decision making (Bisset, 1996:52; Verheem, 1992:152).

The baseline description of the environment should include reference to existing problems and environmental protection measures. In addition, information should be provided on comparisons of alternatives in terms of environmental protection objectives; consequences for quality and problems of the affected environment, and sustainability. Details on evaluation and monitoring of PPP implementation after its approval should also be included in the SEA report. Of major importance at the strategic level is a clear overview of the technical and knowledge gaps found

in the study as well as a reasoned presentation of resulting uncertainties in information and their consequences for planning and decision making. Recommendations should include conditions for approval of the PPP (Bisset, 1996:52; Verheem, 1992:153).

SEAs are normally reviewed by the government agency responsible for the particular PPP. External reviews by environmental authorities may ensure objectivity, accuracy and comprehensiveness (Thérivel, 1993:164).

To effectively influence decision making, SEA must be integrated throughout policy making and planning processes. These processes often are not marked by specific decision points (in contrast to most projects, where specific decision points are usually obvious), thus it is crucial to find the most suitable stage to include SEA findings. SEA results should feature in public consultation on draft PPPs, and information on such consultations should be considered in decision making. SEA procedures should also be flexible enough to be moulded to different types of decisions as well as levels of uncertainty inherent in strategic level decisions (Sheate, 1996:176; Thérivel, 1993:165). SEA will succeed in impacting on decision making only where decision makers recognise the importance of its contributions (Thérivel & Partidário, 1996:183).

As with EIA, timing is an important issue in SEA. In the United States, it is specifically required that a PEIS should be prepared at the appropriate stage in the federal agency's planning process to serve to identify potential environmental problems, give rise to the consideration of a range of options and assist in decision making before project-level commitments have been undertaken (Webb & Sigal, 1992:139). SEA should not unnecessarily delay strategic decision making. Exactly because of the absence of a single decision making point in policy making, the SEA procedure should lend itself to quick execution in order to facilitate the provision of the necessary information at the most suitable point in time in the ongoing process of strategic decision making. This again highlights the critical importance of sound scoping so that only the relevant level of details is produced. One note of caution regarding the quick delivery of SEA results is that time constraints should not limit creative consideration of the most sound environmental options (Verheem, 1992:156).

In SEA, the four major interest groups are the PPP proponent, i.e. the agency that develops the PPP; the authorising agency, i.e. the competent agency that will decide on the PPP; environmental organisations, i.e. government environmental agencies, environmental NGOs, etc. that contribute to the SEA, and the general public. Public participation is not such a strong feature in SEA as in EIA, due to the complexity of public consultation on regional or national scale; the sensitivity and confidentiality with which governments regard the development of many PPPs; the range and depth of issues to be considered in SEA, and the absence of clear decision points in many policy and planning processes (Thérivel & Partidário, 1996:6-8). Nevertheless, the importance of public participation at the strategic level is stressed in theory.

Public participation is essential in order to ensure that priorities, values and knowledge of the public are introduced in addition to the scientific and technical criteria used in assessment. A systematic procedure for a SEA study and rules for its content should be established beforehand, facilitating involvement of relevant stakeholders in appropriate phases and focussing the decision making process. It is equally important that stakeholders have the opportunity to contribute to the identification of impacts to be assessed. Each SEA should culminate in a documented statement of environmental impacts in order to report the findings on impacts, to enable public participation and to provide important information to decision makers (Elling, 1997:162). The SEA report should form the basis for public consultation (Sheate, 1996:175). The results of public consultation should be recorded and incorporated into information used for decision making on the proposed PPP (Lee & Walsh, 1992:133). The public should already be consulted during preparations for the SEA, specifically during the scoping phase, in order to allow them the opportunity to express their concerns and objections (Webb & Sigal, 1992:139,140).

Although the SEA process seems similar to that followed in project-level EIA, there are also specific differences that need to be taken into account for SEA to function effectively in its own right. Differences between EIA and SEA are pointed out in order to highlight the special focus of SEA. Although the steps of the SEA process are much the same as for EIA, the details differ significantly, because of different scales and time frames. The scale of SEA is much greater, mainly because a PPP encompasses more and diverse activities, covers a larger area, and entails a greater range of both alternatives to be considered and impacts to be assessed. Also, the time period

between the planning and approval of PPPs and their implementation is longer than for projects. Thus there is greater potential for the content of PPPs to change over time and more uncertainty regarding prediction of impacts. On the other hand, PPP decision making needs less detail and accuracy and more time is available for the SEA study (Lee & Walsh, 1992:134).

According to Gardiner (1992:167), the same procedure for project EIA can be used for SEA of plans and programmes, although not necessarily for that of policies. Whereas the approach to land-use and water planning has traditionally been “development-led”, SEA could help to change the approach into “environmentally-led planning”, with the objective of supporting appropriate types of development in appropriate locations. This approach requires training of staff to develop suitable skills as well as to foster awareness of the reasons for the change in approach (Gardiner, 1992:169).¹¹

The integration of environmental appraisal into planning processes, rather than environmental appraisal of plans, was already advocated more than a decade ago. This would entail the inclusion of environmental factors into every stage of the planning process (Wood, 1988:114). This approach was applied to comprehensive land-use planning at the municipal level in Sweden. The SEA process and drafting of plans were started simultaneously in order to practically integrate environmental appraisal early through constant feedback between plan drafting and impact analysis. Feedback was designed to occur in the form of personal communication or dialogue between SEA practitioners and planners rather than through documentation as basis for written responses, as is more common.¹² The purpose was also to submit choices about alternatives made during the planning process fully to SEA in order to ensure that concerted efforts were made to find viable options and to consider all potential mitigation measures. Broad representation of all interest groups from various sectors and fields of expertise was facilitated through the simultaneous commencement of both processes (Asplund & Hilding-Rydevik, 1996:134,135).

Abaza (1996:217-228) motivates the case for SEA of structural adjustment programmes (SAPs) in order to integrate environmental consideration into their design. Initially the relationship between environmental deterioration and macro-economic crises was not recognised, on the basis of the belief that economic policies could reverse adverse environmental impacts following from

development projects. However, in reality there are complex interrelationships between the environment and structural adjustment. Therefore it is essential to determine the causal links between changes in economic policy and in the environment.¹³ The author concludes that the two major outcomes of SAP, namely “... a strong substitution effect in favour of exports” and “... a strong distributional effect through change in both public expenditure and relative prices” (Abaza, 1996:227), can both lead to environmental degradation. SEA has a crucial contribution in relation to ensuring that environmental and social considerations are integrated into decisions on alternative strategies for development.¹⁴

A detailed process for SEA specifically of policies is spelt out in early literature, based on research carried out for the Commission of European Communities (Wathern et al., 1988:103). However, it is not clear whether this process has been tested in practice.

The importance of a systematic process for assessing “non-environmental policies” is stressed, since these are the policies that would most probably unintentionally damage the environment. Potential environmental conflicts in the formulation of such policies should be identified early on in order to ensure comprehensive environmental management. The following criteria are suggested as requirements for appraisal of policies:

- The effects of the policy must be identified before its implementation;
- it must be possible to identify those environmental changes which occurred as a direct result of the implementation of the policy;
- perceived changes in environmental quality after policy implementation must be linked to the predicted environmental impacts of the policy in order to assess its effectiveness.

Thus the proposed procedure for SEA of policies entails three broad phases related to impact assessment,¹⁵ policy implementation¹⁶ and assessment of policy effects after its implementation¹⁷ (Wathern et al., 1988:105).

In a more recent article, accompanied by a description of its practical application, Elling (1997:163, 164) describes the SEA procedure for policies as consisting of four processes, namely screening, scoping, assessment and publication of results. In the first phase, appropriate checklists should be utilised to determine which policy proposals are likely to significantly affect the

environment. Those which will probably have significant impacts should be subjected to full SEA, while documentation on those without any significant impacts should indicate why SEA is not required. In the scoping process questionnaires based upon checklists can again be used to define the SEA's scope. Public participation should be integrated into screening and scoping processes as well as consultation on the completed assessment. Consideration of viable alternatives to the proposed policy should also be integrated into screening, scoping and assessment. Scoping and assessment should be applied to all policy options considered during screening, and these options should receive the same attention as the original policy proposal during consultation.¹⁸

3.3 Strengths

The main benefit of SEA is that it should reduce environmental degradation caused by PPPs and lead to improvement of the environment. This can be achieved through developing innovative approaches to the particular PPP, creating appropriate frameworks for PPPs and projects linked to the original PPP, and designing viable mitigation measures (Thérivel & Partidário, 1996:186). SEA can lead to savings in resources by fully informing decision makers of environmental consequences early in the policy making and planning process before the commitment of resources to the implementation of PPPs. It also prevents the need for government action to redress environmental damage through ensuring that better alternatives are selected initially to avoid environmental impacts (Hamblin, 1997:46). Other advantages of SEA are that its application can reduce the time taken for authorising the PPP, as well as subsequent PPPs and projects, and that the SEA procedure can contribute to the establishment of mechanisms such as working groups and data bases that enhance the efficiency of policy making and planning processes (Thérivel & Partidário, 1996:186,187). SEA provides a sound basis for decisions on PPPs. It also serves to render such decisions acceptable and credible since environmental concerns have clearly received proper attention in the process (Verheem, 1992:156).

The potential benefits of SEA can be summarised as follows:

- Facilitating effective analysis and consideration of cumulative, synergistic and secondary impacts, as well as long term and delayed impacts and unintended consequences;
- allowing assessment of policies which may not be directly linked to implementation of

projects;

- encouraging consideration of a wider range of options than viable at project level;
- promoting consideration of environmental objectives in policy making and planning processes of government agencies not directly responsible for the environment;
- enhancing public participation in and discussion between agencies and organisations on the environmental implications of PPP processes;
- increasing the priority attached to the environment in decision making (Heydenrych & Claassen, 1998:45; Verheem, 1992:156; Wood, 1995:268).¹⁹

Specific advantages of SEA relate to overcoming limitations and improving the effectiveness of EIA as well as reducing the workload during EIA. Perhaps the most advantageous effect of SEA on EIA is the facilitation of more effective screening of projects so that full EIA may not be necessary for some projects that have been sufficiently covered by earlier SEAs (Lee & Walsh, 1992:130; Wood, 1995:268). SEA can further contribute to reduced EIA workloads by ensuring more effective scoping of EIA through utilising information and analysis included in earlier SEAs, and preventing the need for examining basic policy concerns at project level, thus preventing the cumbersome recurrence of such issues during EIA (Hamblin, 1997:45; Lee & Walsh, 1992:130). SEA can further enhance the effectiveness of EIA by contributing to appropriate site selections for projects before EIAs are undertaken; to the establishment of principles upon which to base the development of categories of EIA projects, and to the formulation of standard ways of mitigation for subsequent projects (Wood, 1995:268). Furthermore, utilisation of SEA findings at project level can result in saving costs and time committed to EIA; reducing levels of detail necessary in EIA; avoiding duplication of information, and ensuring that SEA and EIA processes are complementary (Hamblin, 1997:48; Heydenrych & Claassen, 1998:45). EIA can also benefit from SEA in that holistic appraisal of environmental systems can ensure the appropriateness of local projects. This would include the wider application of economic criteria to resource management, which is usually difficult to achieve at the level of individual projects (Gardiner, 1992:168).²⁰

Specifically in relation to PEISs in the United States, their timely and effective preparation is recognised as anticipating environmental problems; preventing delays in PPP implementation; assisting long term planning, and preventing or simplifying litigation (Webb & Sigal, 1992:141;

Webb & Sigal, 1996:71). In addition, the process for producing PEISs provides mechanisms for public access to government decision making and creates the opportunity for government agencies at central, state and local levels to improve mutual understanding and conflict resolution through working together on PPP issues. Thus SEA can contribute to the integration of government activities and planning in relation to programmes of specific agencies (Webb & Sigal, 1996:71).

One of the potential advantages of applying SEA specifically to strategic plans, rather than at the level of specific project proposals, is that the political process of negotiating the acceptance of planning and project development can be supported through increased public awareness of major planning issues. Another advantage is that the full evaluation and consideration of alternatives relating to major land-use plans can be handled more effectively at its early stages of development. In relation to mitigation, mitigation measures can be developed for cumulative impacts and applied to future projects, and can be incorporated into policy and regulations, thus strengthening mechanisms for their enforcement (Skewes-Cox, 1996:151,154).

Elling (1997:161-172) reports a study on the application of SEA to two Danish bills.²¹ The main conclusion of the retrospective assessment of the one bill and of the assessment during its preparation of the other, was that it is possible to apply a full-scale SEA to national policies.²² It can be done in an accessible format to the public and decision makers. It was also found that types of cumulative effects could be identified and predicted.²³ Given the dynamics of strategic decisions, such decisions are not final; absence of conclusive prediction in the SEA can be compensated for by adjusting legislation on the basis of the effects of its implementation in order to avoid undesirable outcomes and achieve basic objectives. The concept of SEA should therefore be broadened to include events subsequent to the formal decision, in order to utilise later opportunities to adjust the decision. The author concludes that SEA provides the opportunity for strengthening the democratic and political elements of the process in relation to its scientific and technical elements (Elling, 1997:171,172).

In the above-mentioned study of Danish experience of SEA application at the policy level, it was found that 24 and 25 and a half working days were spent respectively on the appraisals, while existing data were utilised and professionals (not SEA experts) undertook the work. Thus, it was

concluded that costs regarding use of technical data, human resource and time were acceptable (Elling, 1997:169). This was the only example of estimated cost of SEA found in the literature. The only other references to costs again quotes the cost of EIA as being a fraction of total project costs, i.e. 0,1 to 1% (Thérivel & Partidário, 1996:186; Webb & Sigal, 1992:141), indicating that this issue has not yet been properly researched.

A specific study was undertaken among 129 Australian government agencies to assess attitudes towards SEA. Major findings included overwhelming support for the need for SEA; preference for a formal SEA framework, but tempered by suggestions that "... a combination of formal and informal elements was most appropriate ..." (McCarthy, 1996:146), and general support for public consultation. It was also found that most agencies have implemented some variation of SEA informally. However, most agencies did not have a suitable framework for environmental appraisal in the form of broad environmental goals and explicit environmental criteria (McCarthy, 1996:154).

3.4 Limitations and weaknesses

As a fairly new approach which has received more theoretical than practical attention (Thérivel et al., 1992:73), SEA is still beset by various problems and constraints. The most general problems are that its costs and benefits have not been adequately evaluated; little training has been undertaken; little research commissioned, and few guidelines for SEA application have been established (Thérivel & Partidário, 1996:18; Wood, 1992:148; Wood, 1995:272).

The most pertinent barriers and constraints to SEA implementation include the following:

- Limited time and resources, including financial resources, expertise and information;
- limited knowledge and experience, in particular regarding environmental factors to be considered, environmental impacts that may occur and the integration of SEA into policy making;
- institutional difficulties, including coordination across government departments, internal coordination in government departments, and external reviews by independent agencies;
- absence of guidelines and mechanisms to facilitate SEA application;

- difficulty in establishing clear accountability in SEA application;
- low priority of environmental issues;
- lack of political commitment to SEA implementation;
- limited public participation and consultation;
- under-developed state of SEA methodologies;
- inappropriateness of existing EIA practices for SEA purposes, which inhibits development of innovative approaches;
- lack of information sharing on experience with SEA application (McCarthy, 1996:152; Thérivel et al., 1992:42,73; Thérivel & Partidário, 1996:19).

The most critical problem with SEA relates to the increasing generality and uncertainty at the strategic policy making and planning levels (Thérivel & Partidário, 1996:18). This is associated with increased complexity in establishing what information is needed for assessment purposes and lower precision in impact prediction (Wathern, 1988:19). Boundaries of environmental systems to be considered cannot be clearly determined, because of the large numbers of decisions and development activities that can potentially follow from decisions at the strategic level. This, as well as the variety of potential options that should be considered during the duration of policy making and planning processes, adds to the complexity of strategic analysis (Barrow, 1997:89; Thérivel et al., 1992:41,42). Analysis is further complicated by the fact that decision making is dispersed through various forums and covers different geographical levels (Heydenrych & Claassen, 1998:45). Also, PPP proposals are often vaguely formulated, especially policy proposals. Decision making procedures do not follow clearly stated patterns; policy decisions are not made at a particular stage, but rather follow the pattern of a network of related decisions over time (Barrow, 1997:89; Thérivel et al., 1992:40,41,42).

SEA of policies is still very limited in comparison to that of plans and programmes (Thérivel et al., 1992:71; Wood, 1995:272). The complexity of applying SEA to policy making is acknowledged as one reason for its rare application to date (Thérivel, 1993:162). The vagueness of specific policy proposals is a contributing factor, as is the lack of case studies of SEA application to policies through which experience can be shared (Thérivel et al., 1992:41,42; Thérivel & Partidário, 1996:19). Also, certain policies are regarded as simply too broad to be

successfully assessed; the fact that they continuously change further hampers assessment (McCarthy, 1996:152). All these factors make it difficult to define in which cases and in what way SEA should be applied to policy proposals (Thérivel & Partidário, 1996:19). Other constraints to SEA of policies include lack of political will and accountability; absence of clear objectives; issues being narrowly defined; administrative politics; insufficient information; lack of incentives, and unaccommodating institutional structures (Wood, 1995:272).

The fact that policies may have unintended outcomes adds to the complexity of predicting their effects. In addition, the absence of an explicit policy on a particular issue may imply that the policy position is implicit rather than non-existent. The very absence of explicit policies may therefore need to be assessed. The above all constitute conceptual barriers to policy appraisal as well as to developing specific procedures to be followed in SEA of policies (Thérivel et al., 1992:40). Another complicating factor in the case of policy appraisal is that policies often do not necessarily affect the environment directly but, by changing human behaviour or responses in particular situations, they may have secondary impacts which are more difficult to assess than the primary impacts of projects. Furthermore, policies may have different impacts in various regions. This raises the issue of distributional equality of adverse and beneficial impacts. The fact that a policy may enhance one element of the environment, but damage another, further complicates SEA. In such cases, trade-offs between various environmental attributes makes it difficult to identify sound environmental practices. Thus SEA of policies should take into consideration the total context of the implementation framework (Campbell, 1996:171,178).

The absence of relevant baseline environmental data is one of the major constraints to SEA application. The lack of such information severely restrains the establishment of environmental targets and limits and the determination of carrying capacities. It also hampers the identification of problem areas, such as environmentally sensitive areas (Thérivel, 1997:159).²⁴ Insufficient information on current and projected future states of the environment, as well as on the details of future development proposals, contribute to the uncertainty of impact prediction in SEA (Barrow, 1997:89; Heydenrych & Claassen, 1998:45; Thérivel et al., 1992:41,42; Thérivel & Partidário, 1996:10,11).

However, the methodological constraints that limit quantification in SEA are not regarded as prohibitive, since qualitative descriptions and comparisons are acceptable. The expectations of decision makers in relation to precision, uncertainty and assumptions are lower at more strategic planning levels (Wathern, 1988:19; Webb & Sigal, 1996:71). Longer lead times between development and implementation at strategic levels facilitate iteration, which allows for greater clarity to develop over time and the possibility for more precise prediction of impacts and policy formulation at later stages (Wathern, 1988:19).

There seems to be general consensus that the political and administrative barriers to SEA are more crucial than technical and methodological problems (Elling, 1997:171; Wood, 1992:148; Wood, 1995:272). One objection from policy makers to the practical application of SEA, especially to policies, is that it is difficult to require the incorporation of environmental appraisal into the flexible and continuous processes of policy making. However, it is suggested that environmental assessment "... is actually a natural adjunct to a dynamic process such as policy formulation because iteration is inherent" (Sheate, 1996:175). Furthermore, the question of introducing SEA into national policy making is sensitive because government agencies may regard it as an encroachment on their areas of responsibility (Lee & Walsh, 1992:134). This relates to a reluctance on the part of politicians and senior officials to voluntarily relinquish power over their agencies by allowing a role for an external environmental agency in decision making (Wood, 1992:148; Wood, 1995:272). Another complicating factor in relation to political constraints is the higher probability of increased politicisation of environmental issues at the strategic levels than at project level (Barrow, 1997:189; Thérivel et al., 1992:42). A constitutional issue which may arise in the case of SEA is that, if certain policy decisions fall under SEA legislation, it may mean that cabinet decisions may be legally challenged in court, which is constitutionally untenable. One solution to this dilemma is to incorporate an environmental appraisal into the cabinet decision making process (Lee & Walsh, 1992:133).

Administrative factors that complicate SEA implementation include the following:

- In contrast to EIA, it may often happen in SEA that the proponent of the proposed PPP is the same organisation than the competent decision making authority. In such cases, an independent environmental body should review the SEA report (Lee & Walsh, 1992:134).

- Because of its wide scope, many disciplines are involved in SEA studies. The skill to handle various disciplines in consultations is thus paramount. Also, the involvement of different interest groups should be facilitated through opening up dialogues between them, including between different interest groups (Thérivel & Partidário, 1996:185).
- Government agencies may perceive the cost of SEA to be high and not adequately understand its scope and timing (Webb & Sigal, 1996:70).
- Early planning, as a prerequisite for effective SEA, is often difficult for government agencies (Webb & Sigal, 1996:70).

Generally, public consultation in the SEA process is still very limited (Thérivel, 1997:159).²⁵ The potential benefit of greater transparency and public participation in decision making on PPPs has not been actualised to any extent in the practical application of SEA (Thérivel & Partidário, 1996:187).

One recurring issue in SEA is the confidentiality of draft PPPs that governments often regard as sensitive and thus not accessible to the public for consultation before approval. This makes open public participation as in EIA unacceptable to many government agencies. Consultations with stakeholders therefore often occur in closed meetings. It is also recommended that where confidentiality concerns are justified, such cases could be exempted from consultative arrangements (Bisset, 1996: 48; Lee & Walsh, 1992:133). However, these recommendations, especially the latter, hardly constitute creative solutions to the problem of strengthening public participation in SEA.

The actual impact of SEA on decision making is obviously critical to its effectiveness. In this regard, the evidence is discouraging. Elling (1997:170, 171) found in a study on SEA of two Danish bills that, although the SEAs carried out according to the stated principles culminated in full SEA reports, the amount of information that eventually reached politicians involved in approving the bills was minimal, since very limited summaries were presented to them. This was interpreted as a failure on the part of politicians to set the required framework for using environmental appraisal results in decision making. The political process of establishing the necessary administrative and political procedures for this purpose is a precondition for effective

SEA implementation. Suggested ways of overcoming this problem include obligatory public participation in scoping and assessment, and strengthening regulations about the scope and contents of the assessment. It is further recommended that special environmental assessment units should not be created in government organisations, but that the responsibility for the assessment should be integrated into the normal workload of officials. This should ensure the integration of SEA into policy making processes. A last important finding of this study was that a strategic decision making situation such as in the case of the two Danish bills entails many contrasts and strategic dilemmas, which weakens the SEA process, content and effectiveness.

In the Central European countries of the Czech Republic, Hungary, Poland and the Slovak Republic, Thérivel (1997:159) finds that "... SEAs ... seem to be having at best a minimal effect on decision making, at a time when crucial decisions about future directions for development are being made". Examples cited include the fact that decisions on privatisation proceeded independently from their SEAs in Poland, while decision makers virtually ignored a SEA on a transport network in Hungary. Similarly, those responsible for deciding about the trans-European transport network were not significantly influenced by the SEA of the networks. Since no trade-off analysis between socio-economic and environmental impacts and implications for investment was undertaken in the latter case, it was not possible to ascertain the role of the SEA in decision making (Dom, 1996:83).

In the European Union, the use of SEA is most advanced in land-use planning. Although local authority development plans have to be appraised in the United Kingdom, it appears that many officials regard the assessment process as a procedural necessity without incorporating results into final policies. It is also unclear to what extent SEA is affecting policy making in other European Union member states which have established SEA procedures (Hamblin, 1997:47).

Although the rationale for SEA is, at least partially, to support the implementation of sustainable development, this approach to SEA is not without problems. The first relates to the concept of sustainability itself. Most of the various definitions of sustainability are broad and fairly vague, leading to questions about their potential for implementation. Obviously SEA cannot be expected to solve problems that are related to the acceptance of sustainability as an overall goal, such as

increasing environmental protection and recognising the environment as a critical priority. This indicates the need for political commitment to sustainability as well as to “sustainability-led SEA” (Thérivel et al., 1992:129,130).

Most SEA systems, with the exception of that of the Netherlands, simply entails expanding project-level EIA upwards through the levels of programmes and plans to policies. There is no guarantee that this approach will necessarily result in sustainability. SEA cannot significantly impact on the environment while decision makers do not treat environmental considerations as a high priority. In contrast, the approach in the Dutch system entails setting sustainability criteria, utilising SEA to meet them, and then considering projects on the basis of the appraised PPP. The system thus sets environmental limits to decision makers for the optimisation of economic and social objectives (Thérivel, 1993:165).

Thérivel and Partidário (1996:182,183) found that most case studies contained in their volume linked SEA to sustainable development through establishing sustainability objectives and indicators. Nevertheless, they conclude that linking SEA to sustainability is still problematic. Examples are defining sustainability targets and developing tools for measurement. A change in approach is also necessary. The public should be more widely consulted on sustainability issues; however, as stated before, SEA practice is still weak in the area of public participation.

A number of recommendations are made for improving the effectiveness of SEA. Formal frameworks for SEA are suggested as a measure for ensuring that the process works in practice. Legal enforcement or a powerful and competent environmental authority are mechanisms for enforcing the requirement for applying SEA. In addition, procedures should be clarified to eliminate confusion. Other issues that need attention are appropriate decision points for including SEA in various types of policy making and planning processes; ways for applying SEA to policies, especially in cases where confidentiality is at stake; integration of SEA results into other policy and planning considerations in the decision making processes; prescriptions regarding contents of SEA reports; appropriate monitoring mechanisms, and appropriate forms of consultation (Lee & Walsh, 1992:136; Wood, 1995:272).

Another initiative needed to promote SEA effectiveness is heightening the general understanding of SEA among technical staff, government officials and community representatives. This can be pursued by paying attention to such matters as ways of practically applying SEA to different types of actions; the relationship between SEA and existing policy making and planning procedures, as well as between EIA and SEA; the linkage of SEA to sustainability policies, and the costs and benefits of its use (Lee & Walsh, 1992:135,136; Wood, 1995:272).

Methodological issues related to SEA also need clarification in order to improve capacity for using appropriate SEA methods. This can be achieved by compiling a SEA methods inventory; adapting other methods for utilisation in SEA; initiating pilot studies; collecting relevant SEA case studies; preparing guidance on SEA procedures and methods, and training practitioners in the use of SEA. Existing sources of environmental data should be reviewed in terms of their potential for utilisation in SEA. Ways in which to correct shortcomings should be prioritised (Lee & Walsh, 1992:136; Wood, 1995:272,273).

More specific recommendations are forthcoming from a survey on SEA carried out among government agencies in Australia. These include the reduction of ministerial discretion; maintenance of responsibility for SEA within the government organisation responsible for the PPP; streamlining of procedures in order to reduce delays; allocation of more resources, support and staff; improvement of communication with communities as well as within government; updating and simplification of environmental information at the level of individual states, and establishment of integrated teams. Independent consultants should be used to carry out the assessment, and the assessment should be integrated into policy making and planning processes at an early stage, not retrospectively. Recommendations regarding the need for guidelines and appraisal criteria, for education of participants in SEA and for monitoring PPPs are similar to those emanating from international experience with SEA (McCarthy, 1996:152,153).

The importance of starting SEA procedures early and incorporating it throughout the PPP process is again emphasised by Thérivel and Partidário (1996:187) in a summary of lessons learnt from case studies included in their volume. Other issues raised relating to SEA effectiveness are the importance of linking SEA to sustainability; considering economic, socio-cultural and biophysical

elements of sustainable development, and considering environmental issues at the same level as socio-economic and financial issues in decision making. Realistic objectives for SEA should be set early in the process and a systematic methodology which links objectives, indicators, analysis of baseline conditions, prediction of impacts, mitigation and monitoring should be used in the SEA process. The methods that were used in a particular SEA study should be stated in the SEA report. One of the critical factors in SEA effectiveness is the thorough analysis of a full range of options to the PPP. It is necessary to develop new techniques specifically for the purposes of SEA. This should include simple techniques for handling uncertainty. Training in SEA techniques for interest groups is important, as is communication amongst interest groups. Consultation with the public and experts is essential in order to increase legitimacy and transparency (Thérivel & Partidário, 1996:187,188).

3.5 Conclusion

SEA developed primarily in order to overcome the limited scope of project-level EIA. SEA is also presented as a tool for the practical implementation of sustainable development. Theoretically the procedure of SEA should be applied at the levels of development policies, plans and programmes, in this hierarchical order, whereafter EIA should be used for considering the viability of development projects. However, in practice the SEA process seems to largely follow the established pattern of EIA.

The main strengths of SEA lie on two levels: firstly, it can reduce the detrimental impact of PPPs, leading to overall improvement of the environment; secondly, it can overcome some of the inherent limitations and weaknesses of project-level EIA. In terms of the first set of strengths, SEA can serve to increase the focus on the environment during policy making and planning. One of the main benefits of SEA in relation to overcoming the limitations of EIA is that cumulative, synergistic, secondary, long term and delayed impacts can be more effectively analysed. Having set the broader framework for considering environmental consequences of PPPs higher up in the hierarchical planning order, SEA can improve the effectiveness of project-level EIA and reduce workloads during EIA implementation.

One of the main weaknesses of SEA is that, at this stage of its development, its theoretical conceptualisation has not yet found effective application in practice. This is evident from the fact that most examples of its application relate to concrete plans and programmes rather than to overarching strategies and policies. Thus the ideal of incorporating environmental assessment at the highest strategic levels, i.e. policies, from where it should cascade through intervening strategic levels of plans and programmes to the discrete project level, has not yet been operationalised. This core weakness of SEA will be explored further in the next chapter.

In terms of its technical implementation, one of the main constraints to SEA effectiveness is the higher degree of uncertainty inherent in PPPs in comparison to projects, which renders impact prediction less accurate. Although it is stated in the literature that SEA requires the development of different methodologies and expertise from those used for EIA, this contention seems thus far to have remained at the theoretical level. Very little has yet been published on the development of innovative techniques for SEA, indicating that practical application lags far behind theorising about implementation. However, there is consensus that political and administrative factors constitute greater barriers to SEA than technical and methodological problems. Public participation in SEA is hampered by these factors; governments are portrayed in the literature as being generally unwilling to allow open public consultation on draft PPPs regarded as confidential.

In terms of the conceptualisation and philosophical base of SEA, it is enlightening to note that the crucial issues of its integration into feasibility studies as well as into environmental planning and resource management have yet to receive the extensive attention that they have generated in relation to EIA. The issue of integration of SEA into existing policy making and planning processes similarly receives scant attention; although it is theoretically accepted as logical, very few examples of the development of SEA methodologies that specifically deal with this issue have been found. Different models of SEA are referred to in the literature; however, these remain highly theoretical. In practice, the common approach is to expand project-level EIA upwards through PPPs, using the EIA-based SEA model. This means that the basic conceptualisation and philosophical foundation of SEA is, in effect, also an extension of that of EIA. Also, although one of the main reasons for growing interest in SEA is its potential to operationalise sustainability objectives, the approach of expanding project-level EIA upwards through PPPs currently followed

in most SEA systems, does not seem adequate to ensure the achievement of sustainable development. This latter issue will also receive closer attention in the next chapter.

Thus, it has to be concluded that the conceptualisation of SEA hardly constitutes a paradigm shift in the basic approach to EA; rather, it represents an extension of the approach to project-level EIA, thus carrying the inherent problems regarding integration and sustainable development forward into the domain of policies, plans and programmes.

The critical question that arises in relation to the conceptualisation of SEA is whether the implementation of SEA as an extension of EIA will indeed serve the purpose of ensuring that environmental considerations are effectively incorporated into public policy making, planning and programming. Is it possible to expect the achievement of the dual purpose of SEA to overcome the limitations of EIA and to operationalise sustainability objectives through the current approach? Or is it necessary to adopt a more holistic approach in order to overcome the conceptual problems of the current EA approach? These questions will be addressed partially in the next chapter, specifically in relation to policy-SEA, and will be more fully elaborated upon in the final chapter, where the findings and recommendations of this study will again focus on the conceptualisation of EA.

Lastly, as is the case in EIA, it is unfortunately not clear that SEA results have effectively impacted on decision making about development activities. In the final analysis, this may prove to be the most scathing criticism against both SEA and EIA: that these instruments do not succeed in preventing the implementation of development activities that lead to environmental deterioration.

To summarise: While the efforts to develop SEA are laudable, there is still much creative work to be done, both at the theoretical and practical levels, before SEA can be regarded as a valid instrument to ensure that environmental considerations are effectively incorporated into public policy making, planning and programming.

NOTES

1. EIA legislation is enacted in one of two main ways, i.e. through a sectoral approach, where EIA provisions are made separately for various policy sectors, or through a framework approach, where one body of legislation establishes consistent EIA requirements for various policy sectors. It would be more effective to include legislation for SEA in the framework approach, especially to cover SEA and EIA under the same legal basis. If SEA is included in sectoral legislation, it may lead to different regulations and standards for the various sectors, which will hamper consistency (Sheate, 1996:158,159).
2. The question has even been raised whether PEISs as applied in the US, i.e. site-specific assessment of groups of projects with technical similarities or in the same geographical area, actually represent a type of SEA (Thérivel & Partidário, 1996:22).
3. The SEA systems of Australia and New Zealand have included provisions for environmental appraisal of PPPs since their introduction in 1974. However, until the current decade the situation was as in the US, with very little practical application (Wood, 1992:143,147,148). Yet SEA is increasingly being practised informally throughout Australia (McCarthy, 1996:147).
4. Since 1987 the Netherlands has formally required SEA for certain sectoral plans, having had experience of its application from the early 1980s. Their EIA system thus incorporated SEA from the onset (Thérivel, 1993:151; Wood, 1995:280). The Dutch National Environmental Policy Plan of 1989 included changes to the SEA requirements based on past experience in order to increase the area of application and link them (SEA requirements) to sustainability principles (Thérivel, 1993:154). Apparently two SEA systems are developing simultaneously, one based on the EIA regulations of 1987; the other in response to Cabinet directives on the application of a so-called “environmental test”, or “E-test”, to all policy proposals. This entails a paragraph describing the predicted environmental consequences of the proposed policy, of equal importance as the economic appraisal paragraph included in policy proposals. The aim is to determine the sustainability of government policies (Thérivel & Partidário, 1996:23). In essence, the E-test entails screening all policy proposals referred to Cabinet for decision making against a checklist of criteria operationalising sustainable development. The purpose is to appraise the environmental effects and compatibility of the policy with environmental legislation and goals. Those policies which prove to hold potentially relevant consequences for achieving sustainability goals will be assessed in detail. Both new policy proposals and existing policies are to be subjected to the E-test (Verheem, 1992:154,155).
5. The California Environmental Quality Act of 1970 required programmatic environmental impact reports of series of related activities. 324 SEAs conducted between the beginning of 1988 and mid-1990, i.e. eleven per month on average, were mainly of city and county land use plans. While the required contents of programmatic environmental impact reports coincide largely with that for project EIAs, impacts, options and mitigation are discussed more generally in the former. When a specific project is initiated under the already assessed plans, an initial study determines the extent to which its environmental impacts were already addressed in the SEA and the further scope of the project EIA, if required (Thérivel, 1993:147-149; Wood, 1995:274-276).
6. Discussions were revived around a proposed SEA Directive in 1992 (Thérivel, 1993:151). The Fourth Environmental Action Programme of the EC reaffirmed its commitment to a SEA Directive. The 1996 review of the Fifth Environmental Action Programme again referred to environmental assessment of plans and programmes. The 1995 draft Directive did not involve assessment of policies, even though the Commission was mandated to integrate environmental policy with its other policies in order to promote sustainable growth without detrimental environmental effects. This omission severely limits the establishment of a comprehensive environmental assessment system covering all tiers from policy to project level (Hamblin, 1997:48-52).
7. Two advantages for developing their SEA systems exist in Central European countries, in comparison to longer established administrations. These are the rapidly changing nature of their government institutions, leading to easier acceptance of innovations, and the fact that researchers undertaking SEAs

in these countries show willingness for experimentation with new methodologies as well as for actively propagating the institutionalisation of SEA (Thérivel, 1997:159,160).

8. Objective setting may be approached as a process wherein general, qualitative objectives are initially determined whereafter quantitative targets are determined which focus the qualitative statements (Sheate, 1992:171; Sheate, 1996:171).
9. Elling (1997:162) suggests the following fundamental principles for SEA:
 - SEA provides a means for integrating different approaches to the inclusion of environmental considerations into strategic decision making;
 - SEA has a similar purpose and role as EIA, but its contents differ because the objects of appraisal are at different levels;
 - the same principles of systematic process, impact significance and alternatives evaluation, documentation and public participation that inform EIA apply to SEA - these principles characterise it as an environmental assessment.
10. When selecting suitable techniques for SEA, the following criteria are helpful:
 - the extent to which the technique will assist in achieving objectives of the particular SEA step;
 - whether the effort the technique requires is justified in the light of the potential significance and magnitude of the impacts;
 - whether the use of the technique is practical and viable;
 - available capacity and skills to design and use the technique;
 - confidentiality;
 - preferences of stakeholders (Wood, 1995:271).
11. Although planners and policy makers resist the expansion of the principles of project EIA to policy and planning on the grounds that similar methods are already used in planning and that environmental assessment requirements are covered by plans, it has been found that project EIA and planning do differ substantively. For example: public participation is more effective in EIA; EIA teams are more multi-disciplinary; EIA reveals environmental impacts before decision making, and can thus influence the decision, whereas decision making usually occurs within the planning process without necessarily identifying potential impacts; the alternative of “no action” is not usually considered during planning, whereas this option is used in EIA to analyse environmental change if the proposed project is not implemented (Thérivel & Partidário, 1996:17,18).
12. The dialogue between SEA practitioners and planners was intended as a way to deal with barriers found among officials from various disciplines with their different conceptions of relations between the environment and development. This approach reinforced the contention that integration will not be achieved in practice through enforcing SEA legislation; in the practical planning context attitudes must be changed, barriers overcome and the composition of professionals involved in planning changed through approaches such as the one described in this case study (Asplund & Hilding-Rydevik, 1996:140).
13. The author proceeds to describe a variety of adverse environmental consequences of debt, institutional changes, investment decisions, poverty and unemployment, production choices, stabilisation measures, subsidy removal and trade liberalisation instituted under and resulting from SAPs (Abaza, 1996:223). On the other hand, beneficial environmental consequences can also potentially result from SAP measures. Examples of such measures are: “... the removal of perverse subsidies that encourage waste or over-intensive resource exploitation; the introduction of greater economic and price stability which promotes sound resource management and lower marginal time preference; higher standards of living which may entail increased demand for better environmental quality, general efficiency and technology gains” (Abaza, 1996:224).
14. The procedure recommended for applying SEA to SAPs entails the following:
 - screening in terms of sustainability objectives;
 - assessing the socio-economic and environmental costs and benefits;

- evaluating different scenarios and development alternatives;
- exploring measures for internalising costs and environmental and economic implications of technological use associated with different alternatives;
- quantifying social and welfare gains and long term economic benefits as far as possible;
- integrating the above into planning at all levels (Abaza, 1996:227).

15. The first phase consists of four steps, namely establishment of the baseline environmental situation; identification of impacts; identification of an appropriate monitoring programme, and integration with other policies. Baseline information is essential as a basis for assessing environmental changes after policy implementation. Such data collection should commence early in the process since a full description of the baseline conditions will increase the possibility of ascribing changes in environmental quality to the effects of implementing a particular policy. In relation to the identification of environmental impacts, it is suggested that a method appropriate for SEA of policies should be developed from the three methods commonly used in EIA, i.e networks and simple and component interaction matrices (Wathern et al., 1988:106-109).

The third step, i.e. the development of an appropriate monitoring programme, is closely linked to baseline data collection. While the baseline study presents information on the environmental conditions and its changing dynamics before policy implementation, the monitoring scheme deals with the same information after implementation. Thus policy effects are determined through a comparison of the environmental conditions after policy implementation with the baseline conditions. This procedure applies to a static system. Where the particular environmental system is dynamic, however, the comparison should focus on rates of change. Integration with other policies, i.e. the last step of the first phase of the proposed procedure, entails consideration of conflicts with and implications of the proposed policy for other policies, both existing and proposed. It is emphasised that this step may provide the sole opportunity for consideration of the environmental elements of especially non-environmental policies, which increases its importance (Wathern et al., 1988:110,111).

16. In the European Community context, policy implementation should be subjected to policy appraisal in order to ensure compliance with EC directives on the environment. Such appraisal is facilitated by specific objectives and target dates set for policies. The absence of objectives and compliance dates in policies will make their appraisal more difficult (Wathern et al., 1988:113).

17. Assessment of policy effects after implementation entails three phases, i.e. legislative review, procedural review and substantive review. The first refers to the enactment of appropriate legislation for policy implementation. The aim of procedural review is to establish by which mechanism(s) the policy is being executed, and to assess whether detailed procedures for implementation contribute to or hamper the achievement of the objectives of the policy. Substantive review reports on the actual effects of policy implementation. The critical activity in this regard is to isolate policy effects from other factors. This is done through identifying activities that caused these changes. This will only be possible in cases where policies have been formulated to actively introduce or prevent activities associated with eventual environmental change. Thus determining the environmental effects of a policy consists of three steps: (1) Identifying changes in environmental quality; (2) linking the changes to the factors that caused them; (3) linking the causal factors to the impact of the policy (Wathern et al., 1988:113-115). "... [D]issociating real from random change" constitutes the main problem in SEA; this is an inherent problem in environmental management as such (Wathern et al., 1988:116).

18. Differences between SEA of policies and project EIA serves to highlight the nature of SEA. These include:

- In contrast to project EIA, cumulative impacts of policies usually are not linked to specific sites or physical environments. Thus policy effects considered in SEA are of a more general nature.
- The purpose of policy SEA will cover many more elements than project EIA, which usually has the simple objective of decreasing environmental consequences. This is because policies originate from a complex network of interests and actions during political processes not under the control of individual stakeholders.

- Since SEA is less concrete, covering fewer details and culminating in less rigorous documentation than EIA, it may be easier to hide the adverse environmental impacts of policies than of individual projects.
 - Impact evaluation in policy SEA often entails indications of impact direction and range rather than precise degrees. Criteria for impact significance will thus differ for SEA and EIA respectively (Elling, 1997:164).
19. Thérivel et al. (1992:35,36) list objectives of SEA systems. However, given the underdeveloped state of SEA systems, they can also be regarded as potential strengths. They are:
- Ensuring proper consideration of policy alternatives (including the alternative of no action) early in the policy making process;
 - promoting consistency among different policy areas;
 - ensuring consideration of cumulative and indirect impacts of diverse activities;
 - anticipating and avoiding or preventing adverse impacts on the environment;
 - ensuring that the environmental impacts of policies not directly relating to the environment are also appraised;
 - eliminating reassessment of impacts at project level when they have been appropriately appraised at the higher strategic levels, resulting in time and costs savings;
 - providing for transparent and accountable decision making accessible to the public;
 - integrating environmental principles such as sustainability into the development and choice of policy alternatives.
20. Five benefits of applying SEA stated in the State of California Environmental Quality Act of 1986 also relate mainly to overcoming EIA limitations. They are:
- Providing the opportunity for considering impacts and options more exhaustively than viable in individual project EIAs;
 - ensuring that cumulative effects, which may be ignored in individual project appraisal, are considered;
 - avoiding duplication in reconsidering basic policy issues;
 - allowing the consideration of policy options and mitigation measures for whole programmes at an early stage when agencies can still handle basic concerns and cumulative effects more flexibly;
 - reducing paperwork (Thérivel et al., 1992:51).
21. Findings on constraints to the application of SEA to the two bills are discussed in section 3.4 below.
22. Documentation of the environmental impacts; existence of an established procedure and rules for the content of SEA; examination of all significant impacts; consideration of viable alternatives, and public participation in the process to ensure the introduction of priorities and values alongside scientific and technical criteria, were the five recognised SEA principles governing a full-scale SEA (Elling, 1997:162).
23. However, the prediction of the scale of cumulative effects was more complicated. It was thus recommended that a balance between the degree of accuracy and detail in impact evaluation and the level of decision making should be attempted (Elling, 1997:170).
24. This constraint is especially pertinent in Central European countries, where the priority of economic change supersedes environmental priorities, with the result "... that environmental measures are seen as unnecessary and costly add-ons" (Thérivel, 1997:159).
25. This situation is exacerbated in Central European countries because of historical lack of public participation in Communist countries in the past (Thérivel, 1997:159).

CHAPTER 4

POLICY MAKING FROM AN ETHICAL PERSPECTIVE

4.1 Introduction

The main contention of this chapter is that, unless the ethical dimensions of policies are revealed, their environmental implications cannot be adequately analysed. The argument commences in section 4.2, where, given the analysis of the theory and practice of EIA and SEA contained in Chapters 2 and 3, a motivation for assessing the environmental implications of policy approaches as a prerequisite for adequate environmental impact assessment at all levels of development is presented. The argument is pursued through criticising the standard practice of policy making for not articulating the underlying values and principles that inform approaches to particular policies (section 4.3). This is followed, in section 4.4, by a discussion of the inherently normative nature of policy analysis and policy making. Section 4.5 is devoted to an analysis of morality, culminating in the conclusion that some moral conception of what it means to live “the good life” is an integral component of morality, and that such conceptions of necessity drive all policy approaches. A clear articulation of these conceptions and critique of their appropriateness in the given social, political and cultural context is essential for the purposes of sound policy analysis and formulation, as is argued in section 4.6. The last substantive section of the chapter (section 4.7) shows that conceptions of the good life employed as moral motives for public policy approaches in the development paradigm that currently rules, logically hold inherent environmental implications. Thus, it is concluded in section 4.8, effective appraisal of environmental implications at the policy level requires a thorough analysis of the ethical dimensions of a policy.

4.2 Need for assessing the environmental implications of policy approaches

The need for assessing the environmental implications of policy approaches can be motivated from two perspectives: Firstly in relation to the role of policies to set broad frameworks for approaches to development actions, and secondly in relation to the failure of environmental assessment to adequately analyse the environmental consequences of especially policies.

In essence, a policy articulates the intended approach to dealing with a problem (or interrelated set of problems) that warrants either direct intervention from designated government agencies or regulation of activities undertaken by civil society and/or the private sector. A policy thus creates a framework for further articulation of a strategic plan which encompasses the actual actions to be carried out in order to produce solutions to the identified problem or set of problems. A strategic plan normally covers a specified time period, traditionally three or five years. It broadly describes actions to be undertaken immediately when policy implementation commences, as well as those to be carried out in the medium and longer term. A solid strategic plan would consist of a logical progression of sets of actions that build on one another over the time period.

The ideal situation is that the policy framework will direct the broad strategic plan, which, in turn, directs the implementation of the policy. The programme of action should further elaborate the details of specific sets of actions to be carried out by the authorities responsible for executing the programme in order to operationalise the strategic plan. The programme of action thus specifies the concrete projects to be executed as part of policy implementation.

The ideal situation is of course not always realised in practice. In reality, it often happens that projects are undertaken in a piecemeal fashion in reaction to public demand, private sector or civil society initiative or government agency interpretation of its responsibility. The context of a logically reasoned programme of action linked to an explicitly formulated policy through the details of a well structured strategic plan does not always exist. Policies are sometimes formulated in response to the proliferation of project activities which serve to force attention to a problem or set of problems which the projects attempt to address. Or the initiation of projects in a certain policy sector may constitute a problem which needs the design of a specific approach for addressing it.

Whatever the practical reality, the theoretical conception of policy making and planning remains that of policy development in response to clearly identified problems, cascading down into increasingly concrete planning levels, i.e. strategic plan, to programme of action to the lowest tier of individual projects. The details of each project should thus be informed by its specific role in the structure of the action programme, linking it through the strategic plan to the policy approach.

It is in this sense that the broad policy framework sets the parameters for individual projects. If it is accepted that each policy approach logically implies certain outcomes, some of them relating to the environment, it follows that the inherent environmental consequences of a policy can be expected to similarly cascade down to project level through the intervening tiers of plan and programme respectively. The policy approach thus already predetermines the environmental effects that can be expected to result from its implementation at the lower planning tiers.

The above argument is the very reason for the evolution of strategic environmental assessment (SEA) from the initial institution of environmental impact assessment (EIA). The weaknesses of EIA in relation to its limited scope and the subsequent efforts to broaden environmental analysis to strategic decision making through SEA are well documented and were discussed in Chapters 2 and 3. Unfortunately, it is clear that SEA has not provided an effective solution to the dilemma.

The main problem is that, despite its potential advantages for analysing the environmental effects of policies, plans and programmes, the application of SEA is being extended upwards through programmes and plans rather than beginning at the logical starting point of policies as the determining level. Experience in SEA application, to date, largely focusses on plans and programmes. Case studies mostly entail SEA in the form of environmental analysis of sectoral plans and programmes, for example, for the transport and energy sectors, and local, subregional and regional land-use plans. However, SEA of plans and programmes of a more intersectoral nature, for example, a trade agreement that would involve agricultural, industrial, export/import and other sectors, is still rare.

It may be possible to construct a convincing argument that it will be a matter of time for SEA to develop into a fully fledged instrument that can effectively be applied also to policies and intersectoral planning decisions. But the counterargument that the current mode of expanding SEA upwards from EIA is not the most productive approach, is also valid. There are two fundamental reasons for this position.

The first is that environmental assessment, both at project level and strategic levels, does not have a glowing record of successfully influencing decision making on development. Although the track

record for EIA is better than that for SEA, as described in Chapters 2 and 3, there is no conclusive evidence that environmental assessment results have in every instance effectively forced in-depth consideration of environmental factors during decision making processes. Examples of dramatically different types of decisions or alternative development styles that treat environmental considerations seriously as a result of environmental assessment do not abound. As stated in the conclusion to section 2.4.3 of Chapter 2, EIA largely still operates within an overriding growth paradigm where economic considerations hold priority place. Thus environmental assessment can be, and often is, used as an instrument that glosses over the critical and underlying environmental impacts of development projects, especially physical developments to which EIA is largely applied (Gilpin, 1995:3; Smith, 1993:1; Thomas, 1996:200). The emphasis on mitigation of environmental impacts, both in EIA and SEA, does not necessarily imply the avoidance of such impacts; rather, mitigation keeps the door open for proceeding with environmentally damaging developments, especially when mitigation measures such as compensation are acceptable. The fact that EIA and SEA results have to compete with results from economic, financial and engineering feasibility appraisals in development decision making processes has been highlighted in Chapters 2 and 3 (Bisset, 1996:30,31). As long as this is the case, there is no guarantee that environmental consequences of development, even when made explicit through these instruments, will be considered at the same priority level as other feasibility concerns.

The second reason for doubting the efficacy of the current practice to expand environmental assessment upwards from project level through programmes and plans to the policy level, is that this approach will not logically lead to sustainability (Thérivel, 1993:165). EIA and SEA are in essence instruments to be employed in the quest for environmentally sound development. They cannot, in themselves, change the conceptualisation of what environmentally sound development means. The concept of sustainable development is intended to give contents to environmentally sound development even though the debate on the specificity of such contents is by no means concluded, as will be discussed more fully later in this chapter (section 4.7). The basic elements of sustainability have to be incorporated into the broad development philosophy of governments for it to attain practical operationalisation. Attempts to link EIA and SEA to sustainable development, whether rooted in genuine concern for the environment or in opportunistic efforts

to enhance the status of these instruments through latching on to fashionable international language, are bound to falter if they are not in line with the overarching context of a government's philosophy on development. While the bottom-up approach to incorporating sustainability principles into decision making may contribute to its overall acceptability, the full integration of sustainability into policy making and planning is a case where a top-down approach is necessary to produce lasting effects.

It is thus necessary to ensure that an environmentally sound conception of development is infused into the policy level. Only then can SEA and EIA be used effectively to indicate the potential environmental impacts of strategic decisions and proposed development activities and provide the means to avoid them.

The second main contention in relation to the need for assessing the environmental implications of policy approaches is that environmental assessment is not in itself an adequate method for analysing the environmental consequences of especially policies. It has already been shown that SEA is still very rarely applied to policies. Reasons for this situation were discussed in Chapter 3. However, in addition to the weaknesses and limitations of the practical application of environmental assessment, both in the form of EIA and SEA, it has been stated that these instruments have a strong technical focus. Their technical nature tends to limit their scope for considering the value systems and philosophical approaches underlying policy making and planning.

The question of values in environmental assessment can be approached at two levels: that of the values employed by practitioners while carrying out the activities of the assessment process itself, and that of the value systems that come into play from the outside and have to be considered in decision making.

On the first level, EIA has to be recognised as a socially created method involving human judgements (Thomas, 1996:xii) and thus influenced by individual value systems of EIA practitioners. The issue of subjective judgements versus assumed objectivity and neutrality of experts involved receives more attention in literature on EIA than in that on SEA. A common

assumption is that experts are (or should be) value-neutral, objective and unbiased, a stance that will receive more attention in sections 4.3. and 4.4 of this chapter. However, it has to be acknowledged that their views are influenced by culture, especially the culture of the specific “occupational community” to which they belong (Johnson & Covello, 1987:297). This issue feeds into the initial purpose of environmental assessment, i.e. to ensure that environmental values carry more weight in decisions on development. Thus it has to be accepted that environmental assessment is not a “value-free scientific method”, but its application is influenced by policy goals (Clark & Herington, 1988:10). Competence for undertaking environmental assessment may be seen to consist of technical and ideological aspects. While technical competence receives wide attention, ideological competence is seldom analysed. In relation to the planning profession, it should be realised that planners’ understanding and attitudes towards environmental issues are influenced both by the political context in which they work and by powerful commercial groups and developers. Planners often prefer to restrict their role to that of technical experts; in EIA, they rather analyse environmental impacts as a technical exercise and prefer to leave assessment, which involves judgements, to decision makers (Herington, 1988:146-149).

In more recent literature it is emphasised that impact evaluation implies human judgement, rather than “... objective results of science or logical deduction”. Thus, the value of the consequences of project activities is determined by human judgement. Also, it should be recognised that human values and ethics, rather than quantified methods, serve as the basis for evaluating general well-being (Erickson, 1994:8,13,64).

The trend towards quantification in environmental assessment should be approached with caution. In particular, subjective judgements should not be made to look more reliable and scientific through quantification. Value frameworks underpinning subjective judgement should be made explicit. This applies specifically to the use of techniques such as quantitative rankings, indices, etc. in impact evaluation (Barrow, 1997:104,105,114). At the same time, information should be communicated clearly and as objectively as possible, so that EIA can serve to support development choices. However, the role of EIA is seen as not forcing decisions; the decision about actions should remain the responsibility of decision makers and planners (Barrow, 1997:115).

This attitude of neutrality on the part of environmental assessment practitioners in regard to decision making further emphasises the inherent ambivalence towards individual values as well as group values of practitioners. Although the fact that underlying values inform their performance is acknowledged, the ideal seems to remain that of neutrality. On the other hand, rather than apologising for EIA's value-laden nature, it is suggested that EIA's potential to make values explicit is a strength in comparison to other assessment and political processes where value aspirations usually remain hidden (Thomas, 1996:xiii). While the latter may be true, practical experience of EIA application still indicates that the approach is chiefly governed by its technical and scientific elements rather than its value-oriented basis.

On the second level, the plurality of diverse value systems that often come into conflict in political processes of resource allocation has to be considered as a crucial system in the political process of decision making on development (Erickson, 1994:61). Cultural diversity should also be considered as an important variable in this regard (Meredith, 1992). To some extent, value systems are brought into play through the emphasis on public participation and consultation in environmental assessment. However, it has been shown that, while involvement of interest groups, notably the public, is regarded as an important element of effective environmental assessment, this is often a weak area in EIA application. Public participation is even weaker in SEA application, as was pointed out in Chapter 3. Its use is further limited in SEA of policies, specifically because of the constraint that governments often place on public consultation because of the perceived confidentiality of policy issues during the development of government policies (Bisset, 1996:48; Lee & Walsh, 1992:133). Thus public participation in EIA and SEA is not adequate to fully uncover the values underlying development approaches and activities.

One of the advantages of SEA of policies, plans and programmes in relation to EIA is that it can prevent the intrusion of policy issues into the EIA process, especially during public consultation sessions (Hamblin, 1997:45; Lee & Walsh, 1992:133). Thus the expectation is that the philosophical foundation of policies should not have to be considered at project level. Obviously this points to a need for uncovering the philosophical underpinnings of policies during their analysis. Yet no reference is made to techniques to be employed for this purpose in the SEA process. Although reference is made to the importance of especially public participation in SEA

to balance its technical and scientific intent with societal values and political discourse (Elling, 1997:162), how this should be achieved during public consultation is left open.

It is thus clear that philosophical approaches to policy making and the (usually implicit) value systems upon which policy approaches are based are not adequately considered even when SEA is applied to policies. In the rest of this chapter it will be shown that the ethical underpinnings of each policy should be carefully scrutinised for the inherent environmental implications if these implications are to be properly considered during decision making on development.

4.3 Policy making in practice

The field of public policy analysis and policy making is characterised by “the pluralism of policy languages” (Anderson, 1992:491).¹ Policies are analysed, evaluated and justified through a variety of languages, all characterised by their own internal logics. In practice, this means that policy stakeholders have to consider the analyses and arguments put forward by various experts from diverse professional backgrounds.² Each expert claims authority on a crucial policy aspect; each analysis is supported by its distinctive methodological approach, and each recommends a course of action based on these analytical premises (Anderson, 1992:391).

A useful concept elucidating the different expert languages is the idea of frames postulated by Rein (1983:96-100) and developed by Bobrow and Dryzek (1987:5-8). A technical frame of reference can be described as an integrative structure of facts and theories, methods, actions, interests and values. A frame provides its adherent with guidelines on how to interpret, explain, predict and evaluate that which warrants her attention. A frame also provides intervention theories. Because it integrates interests and values along with facts and theories, a frame moves beyond a theory in that it includes “... the normative action implications of the theory and the interests served by it” (Rein, 1983:97). Thus, a frame represents a world view in that it integrates description of facts, prediction of outcome and desirable policy agendas.

The choice of a frame of reference predisposes its adherent to certain research topics, making some salient and central above others, as well as to certain policy instruments, making some

attractive above others. Also, the choice of frame renders the social consequences of particular courses of action legitimate. This largely determines whether public resources will be mobilised to pursue them. The implicit choice of research and policy agendas implies a choice among social values. Therefore it has to be recognised that a choice of frame is unavoidably an ethical rather than simply a technical one. In relation to policy analysis, this constitutes a political decision (Bobrow & Dryzek, 1987:8).

The important implication of the concept of frames is that technical expertise and its body of knowledge is largely determined by the professional perspective of particular experts. This is so in the sense that what is perceived depends both upon what is regarded as central and on the way in which specific professions have been taught to explore pertinent issues (Tong, 1986:3). Also, the interpretation of information through policy arguments may lead to very different, even opposing, conclusions or policy recommendations. This is because policy arguments are based on assumptions, which, in turn, are rooted in the frame of reference or world view of the contender (Dunn, 1994:94,126,130). Since frames include values, it is obvious that the interpretation of information relevant to policy issues is never value free. Amongst other influences, the professionalisation of experts determines how they approach policy analysis (Dunn, 1994:74), and thus what their frames of reference would be when transforming information into policy claims.

Frames of reference present a viable approach to explaining why experts from different professions approach policy problems and their solutions from such very different perspectives. The ethical principles underlying the specific policy approaches are, however, rarely articulated. This issue will receive in-depth attention in section 4.6 of this chapter.

The idea of frames described above is particularly relevant to two widely held assumptions in the standard practice of policy making, namely (1) that policy analysis is an objective pursuit best engaged in by professional experts, and (2) that fact and value can and should be held apart.

Both assumptions can be elucidated from the practice of EIA and SEA analysed in Chapters 2 and 3. The first is evidenced by the practice of engaging a team of consultants to undertake the EIA or SEA study. The consultants should be experts in relevant fields (largely biassed in favour of

natural sciences and engineering), using highly technical methodologies to generate data and information on a range of issues related to environmental consequences of the proposed development activity. They should present a clear report on their findings, usually without articulating their own preferences for the various alternatives assessed. The final decision is left to the relevant authority, who is expected to make various trade-offs in the decision making process. It is largely accepted that the experts cannot or should not attempt to influence the “trading-off”.

The second assumption, namely the separation of fact and value, also clearly underlies the conception of the decision making process in EIA and SEA practice. The final decision maker is the one expected to consider the values underpinning the decision trade-offs,³ the facts produced by the experts are not expected to influence the value-based decisions. Thus the alibi often articulated in literature on the (lack of) influence of EIA and SEA on decision making: that the final decision is political in nature, to be made by government officials and/or politicians who have to consider economic, social and political factors alongside the environmental issues and may find the former more critical than the latter.

The two assumptions elaborated above are both rooted in the preponderance of an instrumentally rationalistic or scientific frame underlying the approach of many professional fields, including that of policy analysis. The Industrial Revolution and the age of Enlightenment marked the development of empirical and quantitative methodologies for generating information for the purposes of policy action. Scientific theories on society and nature came to be regarded as the only acceptable means for objectively understanding and resolving policy issues. As a result, the issue of policy purposes and ends were regarded as nonrational or capricious expressions of individual interests or values generated by party politics. Social inquiry was, per definition, not responsible for exploring such nonrational issues. These developments during the 19th century were followed by the professionalisation and governmental institutionalisation of the social sciences during the 20th century (Dunn, 1994:37,43,57). During the 1960s policy questions were held to be technical questions. It was believed that the social sciences were capable of providing specialised instrumental knowledge necessary to solve policy problems. Ethical questions were limited to methodological issues relating to the professional application of science (Callahan &

Jennings, 1983:xvii).

This type of scientism is closely linked to positivism, i.e. the epistemological view that the social sciences should, like the natural sciences, establish general laws and verify causal explanations through empirically testing hypotheses.⁴ In terms of policy analysis, the positivist approach entails the view that policy interventions should be based on a set of empirically verified theories about the specific policy problem. This requires two sets of causality, one about the determinants that would cause specific desired results, and the other about the effect of the manipulation of policy factors on these determinants. This combination would direct the policy maker on how to adjust policy factors in order to effect the desired outcomes (Bobrow & Dryzek, 1987:122,124,125).

In positivism, knowledge is derived from facts experienced through the senses. Such sensory experience is regarded as objective and rational. Since values are not facts, they cannot be experienced through the senses. Values can therefore not be seen as knowledge which can be true or false; rather, they are preferences, choices or commitments to prescribed behaviours. As such, values are subjective, nonrational and nonscientific, and should be excluded from scientific inquiry (Nielsen, 1983:122; Tong, 1986:12). In positivist policy analysis it is held that questions about the values which should be employed in policy goals and their priority cannot be rationally addressed. Thus it is irrelevant which set of values is used. The values necessary to proceed with analysis are usually simply obtained from those in authority in the particular policy field. What is employed here, is a traditional separation of administration and politics; the inherently political nature of administration is ignored. In the resultant policy analysis political dialogue is subordinated to a rationalistic form of administration by the authorities supported by policy analysts (Bobrow & Dryzek, 1987:130,131).

Theories on policy evaluation also suffer from instrumental rationality which denies that the identification and prioritisation of values form an element of the rational choice process. Although it is stated that values should be stipulated and ranked, it is rarely clarified how policy analysts are to go about these tasks in practice. Policy analysis as a technical or rational process only commences after values have been stated by the relevant authority or through establishment of public preferences. Thus the issue of values is treated as given in policy evaluation (Anderson,

1992:389).

While positivism is still very influential in the social sciences, it is losing ground in the policy field (Bobrow & Dryzek, 1987:128; Tong, 1986:29,133,134). Yet the dichotomy between fact and value has been deeply entrenched (Tong, 1986:113), both in the social sciences in general and in the policy analysis field in particular. This is specifically evident in the second example from the EIA/SEA experience described above, where facts are to be supplied by experts, while values are decided by "... those with power ..." (Tong, 1986:13).

"Value relativism" is another off-shoot of the positivist approach to values. In this view, it is accepted that values can be investigated through social science methodology, the results to be treated as other types of factual data. It is, however, believed that debate about value disagreements is not possible, again because values are no more than expressions of preferences or desires and thus nonrational. This position is associated with scientific instrumentalism, which advances the neutrality of policy analysis methods, to be used as tools by neutral analysts. The analyst can only ensure that the most appropriate means are used to achieve given ends, the ends being constituted by values which are accepted as being outside of the parameters of rational debate (Dunn, 1994:126,127).

The two main decision making models competing for predominance in the policy analysis field are the rationalist and incrementalist models. The "'rational system' model" (Gordon et al., 1997:7) of policy analysis has retained strong normative status despite much evidence against its validity. Policy making is viewed as a rational progression of steps from formulating the problem through assessing alternative solutions to implementation. In this view, the problem is purely technical and policy making is a controlled process taking place within a consensual climate (Gordon et al., 1997:7). The rationalist approach defines decision making as a process made up of searching to discover objectives, formulating the objectives, selecting strategies to attain the objectives and evaluating the outcomes (Smith & May, 1997:164). The opposite view, of policy making as an essentially political process characterised by conflict between interests and purposes of various stakeholders, bargaining about the final contents of the policy and problematic implementation, has not enjoyed as much support as the rational model (Gordon et al., 1997:7). The incrementalist

approach, advanced by Lindblom and also called “‘muddling through’ or ‘disjointed incrementalism’” (Smith & May, 1997:166), presents decision making as starting with existing policies, evaluating only a limited number of alternatives and their consequences. The incrementalist approach renders problems more manageable, since problems are continuously redefined in relation to the possible means available for their solution. In this approach evaluation does not stand as a separate activity, but is integrated as part of the decision making process (Smith & May, 1997:166).

The rationalistic approach to decision making has been severely criticised on various counts. Two aspects of the criticism are pertinent to the discussion of the place of values in public policy making. Firstly, the approach holds an inherent bias in favour of rationality, though consensus on its definition and even its status as a universal good is absent. Secondly, the sharp distinctions between facts and values, values and decisions and ends and means are untenable.⁵ In reality, values and interests of decision makers influence facts; values and decisions are integrally intertwined, and ends and means are rarely chosen separately, signifying greater ambiguity regarding these variables than recognised by the rationalistic model of decision making. The incrementalist approach has also been widely criticised, mainly for its conservatism in coping only with marginal change and reinforcing inertia⁶ (Smith & May, 1997:164-167).

Although both approaches are open to criticism, Smith & May (1997:170) point out that the rationalistic approach represents an ideal model of decision making, thus the criticisms on the grounds of its empirical inaccuracy, while the incrementalist approach represents a better explanatory model of actual decision making practice, thus the criticisms on the grounds of its lack of normative appeal. The fact that the rationalist approach is regarded as the ideal decision making model supports the contention that the practice of policy making still strives for instrumental rationality and the concomitant definition of objectivity. The result is that values underpinning policy purposes and approaches are relegated outside of the responsibility of policy analysis.

To conclude: Policy analysis and policy making in practice are still to a large extent ruled by a deeply entrenched fact/value dichotomy, leading to the subordination of value analysis and articulation to scientific exploration and factual evidence. This can, for example, be read off the

superior status of scientific evidence emanating from the natural sciences in the environmental field, as seen for instance in EIA and SEA methodology and practice. However, there is growing recognition of the inherently normative nature of policy analysis and policy making, as will be seen in the next section.

4.4 Normative nature of policy analysis and policy making

There are two basic reasons why, during the last two decades, the normative component of public policy making has received more attention. The first is the continued attack on the positivistic approach to social sciences, especially the problematic nature of the fact/value dichotomy and the inherently normative nature of formal and quantitative techniques of policy analysis. The second reason is that research has revealed a more complex and problematic interaction between policy makers and the social sciences than originally assumed: social science outputs rarely have major impacts on policy, while general concepts and theories have had more impact through indirectly influencing policy making (Callahan & Jennings, 1983:xix). What seems to happen, is that ideas originating from social science research influence the setting of the policy agenda in the sense that policy stakeholders use the research findings as one source for understanding existing situations, for finding alternative solutions to problems and for demarcating what may be possible to achieve. The positions that policy stakeholders hold during policy processes are determined by the interaction between their ideologies, their interests and information. Ideology signifies values, principles and political commitments which serve as a normative basis for taking policy positions (Weiss, 1983:219-221,224). Thus the use of social science information in policy making is a result of interaction with a normative stance. Policy analysts have also become increasingly aware of the complex relationships between their assumptions regarding the basis of knowledge, their political orientation and their normative beliefs, resulting in specific reflection on their role in the policy making process (Tong, 1986:30).⁷

The attack on the fact/value dichotomy has been supported from within the policy analysis field itself. Interpretation of facts depend upon values in the sense that values underpin the purposes for which factual information will be used. The organisation of facts around theory is shaped by human purposes, which, in turn, reflect values. As already shown in the discussion on frames in

the previous section, values form an integral element of the frames of reference that predispose social scientists and policy analysts to approach social inquiry in a specific way. Since values serve to direct the research agenda, facts are value-laden (Rein, 1983:88,89,93; Tong, 1986:30). Facts also influence values and purposes in that they can enforce the questioning of value positions and purposes (Rein, 1983:91).⁸ The issue of alternative possible interpretations of facts from different frames does not negate the link between values and purposes and facticity; rather, it serves to explain the controversy and conflict arising from disagreement over the same information.

Habermas (1978) criticised positivism for its confused epistemological view that equates all knowledge to that derived from natural science and that reduces rationality to a form of instrumental reason (Nielsen, 1983:126). In reality, however,

“[t]here are three categories of processes of inquiry for which a specific connection between logical-methodological rules and knowledge-constitutive interests can be demonstrated. This demonstration is the task of a critical philosophy of science that escapes the snares of positivism. The approach of the empirical-analytical sciences incorporates a *technical* cognitive interest; that of the historical-hermeneutic sciences incorporates a *practical* one; and the approach of critically oriented sciences incorporates the *emancipatory* cognitive interest ...” (Habermas, 1978:308).

Thus, knowledge actually consists of three types corresponding to three sets of basic human interests. These are:

- (1) Knowledge derived from the empirical-analytical social sciences, which corresponds to “... the cognitive interest in technical control over objectified processes” (Habermas, 1978:309), or control of natural and human environments, and which produces “... information that expands our power of technical control ...” (Habermas, 1978:313).
- (2) Knowledge derived from the historical-hermeneutic sciences, which corresponds to “... a constitutive interest in the preservation and expansion of the intersubjectivity of possible action-orienting mutual understanding” (Habermas, 1978:310), i.e. “... the *practical* cognitive interest, in contrast to the technical” (Habermas, 1978:310), and which produces “... interpretations that make possible the orientation of action within common traditions ...” (Habermas, 1978:313). This interest relates to people’s need to understand one another and to reach consensus within “... the framework of a self-understanding derived

from tradition”(Habermas, 1978:310).

- (3) Knowledge derived from critical reflection and the critical sciences, which corresponds to “... an emancipatory cognitive interest” (Habermas, 1978:310), and which produces “... analyses that free consciousness from its dependence on hypostatized powers” (Habermas, 1978:313). This interest relates to the need for self-understanding and autonomous action, and thus to the need for freedom from social constraints that prove to be unjust and/or irrational and from systematic distortions of communication, such as ideologies (Held, 1980:317; Nielsen, 1983:123).

The equation of all knowledge with only one legitimate form, i.e. natural scientific knowledge, by definition makes knowledge derived from self-reflection impossible. At the same time, this stance denies that human purposes can be either rational or irrational. Positivism therefore also gainsays the possibility of criticising social institutions on rational grounds. Once the ideological nature of these positivist tenets has been revealed, it becomes possible to recognise that the social sciences cannot do otherwise than be normatively engaged through evaluating the rational bases of human actions and social practices. Thus critique and advocacy are integral to the social sciences, with the purpose of transforming society. Although such pursuits are not detached or neutral, they can nevertheless be non-ideological and objective (Habermas, 1978:214-245; Nielsen, 1983:124-129).

Dunn (1994:62,63) also distinguishes between different types of information or knowledge when describing policy analysis as an applied discipline. According to him, policy analysts have to respond, through generating information and argument, to three types of questions, i.e. factual questions, questions about values and questions about actions. The analytical approach and type of information employed to correspond to each of these sets of questions are: the empirical approach using descriptive and predictive information to address factual questions; the valuative approach using valuative information to address questions regarding values, and the normative approach using prescriptive information to address questions about action to be taken.

Policy recommendations can also be defended against accusations of political activism, ideological statements and emotional appeals.⁹ Policy recommendations are rational in the sense that the activity of developing them entails the production of relevant information and reasoned arguments

about the viable resolution of policy issues (Dunn, 1994:63,64). Once again, this description of policy analysis mitigates against the artificial separation of facts and values. The process of developing policy recommendations imply that the value of and reasons for selecting specific options are determined, since a policy recommendation specifies the right action in response to a particular policy problem. The approach to policy recommendations is thus normative, closely linking policy recommendations to questions about morality and ethics (Dunn, 1994:267,325).

This again raises the issue of values or standards underpinning policy choices. Contrary to the position held in positivist or economic approaches, values are not mere expressions of individual preferences. Indeed, in the personal value context an individual may express a purely individual and personal preference or commitment. However, in the standard value context value statements can be made about the values of a typical group. The ideal value context moves beyond the personal and standard contexts and entails the possibility of expressing value judgements about the “wrongness” or “rightness”, “badness” or “goodness” of public policy in any context, regardless of which policy stakeholders support or oppose the particular value(s). Values can be explained through motivational arguments; however, they can also be justified through arguments from ethics, which provide the grounds for values (Dunn, 1994:127,128).

One of the standards widely used for policy choice is the principle of efficiency derived from the discipline of economics. However, the principle of efficiency as basic standard of decision making in the market place cannot be justified as an overarching standard for deciding about ends and means in policy making. It does not recognise values as independent of individual preferences of economic actors, nor that values can dominate preferences. Individual autonomy is thus reduced to market choices. The existing social situation is favoured by the efficiency principle, while utility is equated with satisfying preferences and maximising wealth. In effect, efficiency can only serve as a standard for the means in policy choices. This economic approach to policy analysis, which relies heavily on cost-benefit analysis to determine policy choices, severely limits the capacity of public policy to identify social injustices as legitimate policy concerns and to act accordingly. Moral principles and policy arguments which do not accept the economic approach as normative and efficiency as policy standard are still necessary in order to evaluate the goals of policy choices (Gillroy & Wade, 1992:5,6,237-248).

Anderson (1992:387,388) similarly argues that standards or evaluation criteria are prerequisites for policy choice. Each step in policy making rests on these criteria, which prescribe how decisions ought to be made. The identification of a problem depends on how it will be evaluated; policy options have to be assessed against some standard, and decisions have to be justified, again in relation to some standard. Thus, the question how to choose criteria has to be a basic component of theories of policy making.

At this stage it is useful to return to the discussion on policy decision making models at the end of the previous section. Despite criticisms against the incrementalist approach on the basis that it does not represent an ideal model, incrementalism can be viewed as useful in fostering insight into the political nature of public policy making. Clear policy objectives are elusive, given the conflicting demands that public policy should produce solutions to policy problems, reflect individual rights and be open to input from and control by civil society. The rationality inherent in public policy making can therefore not be equated to the individual rationality of policy makers, but should rather be viewed as collective rationality of the various policy stakeholders (Gregory, 1997:186-189). Thus

“[p]olicy making is about the complex and continuous process of adjusting the ‘value system’ to the ‘reality system’ and vice versa; in this light it becomes relevant to talk not of goods and objectives that are achieved, but of norms and standards that are maintained or modified over time” (Gregory, 1997:188).

The claim that policy analysis is value-neutral is negated by at least three valid counterarguments, namely: (1) the definition of what constitutes a policy problem depends on the values, often in competition or conflicting, of various stakeholders; (2) because of the different value assessments, very different policy options can be based on the same information; (3) reasons may be provided to justify policy arguments in support of policy evaluation and/or policy advocacy. It is thus clear that policy analysis is value-dependent rather than value-free. However, policy analysis should also be value critical in the sense that values, just as facts, can be debated systematically, rationally and critically (Dunn, 1994:127,131). This will be pursued in more detail in the discussion on the articulation of ethical policy dimensions following in section 4.6 below.

The results of the policy making process, i.e. public policies, are similarly not value-free. Whether

implicitly or explicitly, policy choices rest on normative assumptions that determine their practical effectiveness. Each policy choice contains both empirical and normative elements. The latter entails the justification of a particular set of goals and means for achieving the chosen goals above other, competing, ones. The moral principles and ethical values underlying the policy argument determine policy formulation and implementation, but also the standard(s) used for its evaluation (Gillroy & Wade, 1992:vii-ix). This ethical basis of public policies is the focus of the next section.

4.5 Ethical dimensions of policies

In order to pursue the argument that all public policies are in effect driven by a basic conception of the good life, it is necessary to take a closer look at the nature of morality. The ensuing analysis of morality will prove that, although two levels of morality are largely suppressed in modern ethical approaches, they are in fact constitutive of human identity and thus inextricably part of all human endeavours, including e.g. public policy making. These two levels, which will be explained more fully in the following two paragraphs, respectively relate to moral motives, or notions of a meaningful life, and moral sources, or that which inspires people and direct their lives.

The modern trend is to view morality in purely procedural terms as prescriptions about how people ought to act. Moral theories or philosophies thus focus on obligations: what is right or wrong to do. Such theories are expected to define procedures or criteria from which obligations can be deduced. The focus is on standards or principles for action. The justification for moral principles or standards is also conceived procedurally: good moral reasoning is characterised by the thought procedure or style, rather than by substantive correctness of the outcome. The moral source underlying the principles is not relevant; what is relevant, is the procedure through which the determination of the principles and thus the right action has been shown to be defensible or justifiable on rational grounds (Taylor, 1989:79,84,86,87).

This modern conception of morality leaves no room for questions about either the motives or the sources of obligations. A richer conception of morality should, however, acknowledge that moral thinking incorporates three axes. In addition to the first level of obligations, i.e. basic notions of right and wrong actions towards others, moral thinking also entails notions of what it means to

live a meaningful life and notions of what constitutes dignity in the sense of what commands respect from others in one's life. The second level of morality, that of the meaning of life or the nature of the good life, addresses itself to the question why actions are right or wrong, and thus what is good to do in itself, regardless of any obligation. The third level, that of what commands respect or allegiance, deals with what it is good to admire or respect, and thus to strive to be. This level moves beyond motives to moral sources, i.e. that which inspires and empowers people. The second and third axes relate to traditional visions of, respectively, the good in terms of the good life and the good as object of allegiance and love (Taylor, 1989:14,15,79,84,92,96).

In each historical era people have held different views on the three moral axes described above. However, each era can be characterised by a dominant view on these questions. Such a dominant view is encapsulated by a framework consisting of "strong evaluations" or "qualitative distinctions" about those goods or purposes that are "higher" or more worthy of pursuit than others. These goods serve as independent standards for judging human choices and desires (Taylor, 1989:16,17,19,20). The modern identity in the Western culture is defined by a number of ethical notions about which people in the current era are remarkably fundamentalist, in spite of the modern trend to disregard both the motives for and sources of such ideals as irrelevant or non-existent. For example, moral intuitions about respect for others "... are uncommonly deep, powerful, and universal" (Taylor, 1989:4). This conception of respect for others as an ethical basis links respect for life and integrity with human freedom and autonomy. Two other features connected to the conception of respect are the importance of avoiding or reducing human suffering and the affirmation of ordinary life. Moral conceptions such as these are, in fact, reflections of an ontological view of what it means to be human, because they entail implicit or explicit claims about the status and nature of people (Taylor, 1989:5,12,13).

In the sense that they represent qualitative distinctions about higher goods or purposes, frameworks implicitly or explicitly represent the background assumptions for ethical intuitions, reactions and judgements on all three levels of morality. A framework provides a basic orientation towards a person's identity through positioning herself on the moral horizon - it defines how she is positioned in life, and thus who she is. Without such an orienting framework, the individual will be lost, both morally and in terms of self-identity (Taylor, 1989:26-29,78).¹⁰

The question whether it is possible for people to live without frameworks inevitably arises, specifically because traditional frameworks have over time been exposed as interpretations which can, and have, change(d) rather than unchangeable ontologies. For example, the entrenched racism and sexism of previous eras have now been exposed as incompatible with the strong value placed upon respect for others within the modern framework (even though racial and sexual discrimination in practice continue to exist alongside commonly accepted espousals of human rights). Since frameworks are not ontologically grounded but rest on human interpretations subject to revisions and eventually abolishment, it would appear reasonable that people should be able to do without them. However, the crucial link between frameworks and self-identity proves the opposite. The basic question concerning identity, or who one is, can only be answered by referring to an ethical framework (Taylor, 1989:26,27).

“What does answer this question for us is an understanding of what is of crucial importance to us. To know who I am is a species of knowing where I stand. My identity is defined by the commitments and identifications which provide the frame or horizon within which I can try to determine from case to case what is good, or valuable, or what ought to be done, or what I endorse or oppose. In other words, it is the horizon within which I am capable of taking a stand” (Taylor, 1989:27).

What Taylor (1989:29) does see as “ontologically basic”, is that humans cannot but ask questions about self-identity. The qualitative distinctions inherent in a framework defines answers to these questions about the horizon which demarcates the meaning of things for people and thus their position within the moral horizon.

Qualitative distinctions provide reasons for moral beliefs in the sense of making sense of one’s life. They present the most clairvoyant terms for explaining why one lives one’s life in a particular way; clairvoyant, in the sense of providing the best account at a specific time (Taylor, 1989:53,57-59). Qualitative distinctions thus serve “... as an articulation of what is crucial to the shape of the moral world in one’s best account” (Taylor, 1989:75). They state the moral case for our actions. In this role of giving reasons, they simultaneously define self-identity (Taylor, 1989:75,78).

The good is that which is assigned the highest value through qualitative distinction, designating that which is regarded as of supreme value, admiration or worthiness. Thus, respect for others

could serve as an example of the good in the sense that a life that exemplifies this good is regarded as valuable, admirable and worthy of respect by adherents to this good. “Life goods” are those feelings, actions and modes of life that constitute the good life (Taylor, 1989:92,93). While most people in the current era are moved by many goods, or perhaps because they try to live accordingly, they rank these goods. When one of the goods is ranked as of ultimate value in relation to the others, this supreme good becomes a hypergood. Because it is the highest good to which the person is strongly committed, it takes on the role of a standard for weighing and judging other goods. The moral is thus defined as the demands or ends which are important above all else and enable people to evaluate other demands and ends in relation to these most important goods (Taylor, 1989:62,63). Again, respect for others can be used as example. Thus, the demand to respect one’s family may be overridden by the inherent incompatibility of certain family members’ racist and/or sexist views with one’s own broader view that respect for others as highest good cuts across racial and gender divisions.

The foregoing example also supports the contention that a moral view constituted by a hypergood is in essence a source of conflict. This is so because allegiance to a hypergood is rooted in the insight that it has superseded lesser views. A hypergood, in its role as standard for evaluating other, competing goods, in effect challenges the latter and can reject them as inadequate bases for an ethical outlook that represents the most clairvoyant account of the best way to live one’s life (Taylor, 1989:64,65).¹¹

Hypergoods carry conviction precisely because their acceptance signifies an improvement or growth in ethical orientation. By being experienced as helping its adherent to live more clairvoyantly, allegiance to the particular hypergood is regarded as “an error-reducing” (Taylor, 1989:72) transition brought about through practical reasoning. It is important to note that, contrary to the position of most modern moral theories, such a move in error reduction does not rest on external criteria; the standards set through acceptance of the hypergood as moral source are inherent to the moral reasoning that motivates allegiance to it (Taylor, 1989:72,73). This points to a defining characteristic of hypergoods, namely that a person’s acceptance of a hypergood is intricately tied to her being moved by it - “... the connection between seeing the good and being moved by it cannot be broken” (Taylor, 1989:74). The strong sense that transition

to a particular hypergood entails an improvement over previously held moral views inspires a person's confidence in her position. This moral view is experienced as the most reliable because it is based on her strongly held moral intuitions that her transition to it entails a gain in the sense of having dealt adequately with challenges from other moral positions (Taylor, 1989:73-75).

The hypergood of respect for others can once again be used as example: its adherent has arrived at the acceptance of respect for others as hypergood through experiencing rejection of racial and gender discrimination as personal growth which helped her to live her life more clairvoyantly than those family members with whom she has come into conflict over racial and gender issues.

In their role as constitutive goods, hypergoods have a dual purpose: on the one hand, the hypergood as constitutive good describes or defines a person's moral theory; on the other hand, respect for, commitment to or love of the hypergood empowers its adherent to be good (not simply to do good). As such, the hypergood serves as a moral source (Taylor, 1989:93,94).

Having introduced the concepts of qualitative distinctions and its connection with hypergoods as constitutive goods, it is now possible to return to the modern procedural moral theories and specifically to their denial of qualitative distinctions as relevant to ethics. What follows logically from the first denial, is their consequent denial of hypergoods as constitutive of morality and thus their "fixation" on the first moral level of obligations.

One set of motives for refusing to acknowledge the place of qualitative distinctions in moral theory is epistemological. Because the articulation of qualitative distinctions provides reasons for moral actions, the language of such articulation is that of "thick description" (Clifford Geertz, as quoted by Taylor, 1989:80). This is a culturally bound, rich descriptive language of articulating "... the significance and point that the actions or feelings have within a certain culture" (Taylor, 1989:80). However, naturalistic and scientific approaches prevalent in the modern era wish to move away from culturally bound descriptions to more scientific descriptions of all phenomena, including the sphere of human ethics. Thus "thick descriptions" have to be replaced by descriptions of external actions, which logically leads to the prescription of right or wrong actions as the essence of moral theory - a procedural approach (Taylor, 1989:80,81). The procedural

approach of modern moral theories coincides with similar procedural approaches to policy analysis and policy making described in section 4.2: ends and purposes of, or underlying motives for and sources of, policy approaches are subordinated to the focus on what should be done. The epistemological basis for this move in both applied social science and moral theorising is clearly the same.

Another set of motives for the denial of higher levels of ethics is moral. One such moral motive is linked to “the modern affirmation of ordinary life” (Taylor, 1989:81). Recognition of the inherent moral good of pursuing common human activities and purposes can be regarded as liberating in the sense that the genuine value of life has been recovered. Thus the competing claims of other, presumably superior, ways of life have to be rejected. Also, the human striving to position oneself correctly in relation to the good can be devastating. People realise that they can delude themselves in this endeavour, or that they can become smugly self-satisfied, exactly because the acceptance of a hypergood proceeds by means of error-reducing practical reasoning through transitions to more clairvoyant accounts of what it means to live a good life and to be good. Inadequacies and failures in attempts to live up to the demands of the good can be experienced as self-destructive suffering. In this sense, then, it can be liberating to reject all hypergoods (Taylor, 1989:81).

Human independence or freedom is another strong modern notion which provides a further moral motive for procedural ethics. The rejection of external sources of authority led to the view that people should independently determine their own goals themselves, including their moral purposes. Individual freedom to determine life goals seems to leave no room for the claims of higher goods on one’s moral life. Thus individual freedom seems to indicate that qualitative distinctions have no place in ethics. The modern allegiance to the notion of human freedom is the main reason for the shift to procedural thinking in ethics - practical reasoning cannot be substantive unless some higher good is recognised which prescribes obligations. However, if a person’s own will or desire is to be the independent source of ethics with no place for a higher good, then practical reasoning must be defined procedurally. Thus morality can only be justified procedurally, not substantively, and both motives for and sources of morality have no role to play in moral theory, leaving the first level of obligations in supreme place (Taylor, 1989:82,83,86).

Yet another strong modern notion which serves as a moral motive for the denial of qualitative distinctions is that of “practical benevolence” (Taylor, 1989:84) or avoidance of suffering. Human effort should be employed in the service of relieving suffering. People should work together “... to improve the human condition, relieve suffering, overcome poverty, increase prosperity, augment human welfare” (Taylor, 1989:85). Concern with a higher good may be seen as luxurious self-absorption which distracts from genuine commitment to altruistic action. Such a view of practical benevolence leaves qualitative distinctions in an inferior position in moral theorising - even open to ridicule (Taylor, 1989:85).

A last moral motive for denying higher levels of ethics is that of the search for one basic moral consideration or a universal, unifying ethical principle. Qualitative distinctions usually articulate the goods grounded in the way of life of a particular group or culture. A desire to avoid such culturally bound principles also provides a moral reason for rejecting qualitative distinctions. The search for moral unification again supports the shift to a procedural conception of morality (Taylor, 1989:85,89) because the richer description of morality that includes articulation of moral motives and sources logically ends up being parochial, being rooted as it is in frameworks and tied to self-identity. All that remains about which consensus with any degree of universality or unity can be achieved, are moral obligations that are accepted across cultures, regardless of their underlying motives or sources. The classic example is the universal acceptance of the moral prescription: “Thou shalt not kill”.

Because they reject qualitative distinctions, procedural moral theories cannot articulate any insight into motives for adhering to obligations to act morally, nor can they articulate what is important or commanding of respect about the obligations they pronounce. Yet the motives for these theories described above imply that they are in fact deeply rooted in strong ideals such as affirmation of ordinary life, freedom, altruism and universalism. These ideals are also characteristic of modern culture and central to defining the modern self. The irony is that the very ideals that constitute them at the same time cause these theories to reject all notions of higher goods. Because of their narrow focus on determinants of action, modern moral theories deny articulation of essential ethical issues (Taylor, 1989:87-89).

The important point in opposition to the modern tendency of rejecting qualitative distinctions and the goods and hypergoods that arise from such distinctions bears repetition here: people cannot but make such strong evaluations; it is an unavoidable characteristic of the human condition. This is so because a person's identity is inextricably interwoven with her self-understanding, which, in turn, is closely interrelated with her conception of the good. Because self-identity is linked to moral assumptions in this way, it is irrevocably constitutive of human agency to ask questions about the meaning of life and about the essence of the good. In the process of searching for answers to these (self-)identifying questions, qualitative distinctions or strong evaluations have to be made (Taylor, 1989:26-33).¹²

Strongly held views such as the ethical notion of respect for others and its derivatives described above fulfil the role of constitutive goods or hypergoods in the modern era. It is important to note that the notion of respect for others and its defining features are still mainly couched in human-centred terms. Respect for others usually only includes other people, but not non-humans. The moral hypergoods overtly accepted in the modern procedural moral philosophies, i.e. "universal rights, freedom and active benevolence" (Taylor, 1989:102) are all anthropocentric. Recognition that human conceptions of the good can be enlightened by the fact that nature exists independently, or that wilderness should be preserved for its own sake, as well as revealing the truth for its own sake are cited as cases of non-human claims that need explicit considerations. However, because of the inherent subjectivism of modern moral philosophies non-human claims go unheard within these inherently anthropocentric frameworks (Taylor, 1989:4,102,103). In the discussion of the concepts quality of life and sustainable development which serve as moral imperatives in most public policies today (section 4.7), the inherent anthropocentrism of these concepts will also be highlighted.

The anthropocentric conception of respect for others and its derivatives serve as motives for both the identification of social problems and the search for solutions to what is regarded as problematic. Such constitutive goods are thus at the root of policy problems and policy approaches. In this sense, then, fundamental moral intuitions strongly impact on conceptions of policy problems and policy approaches. This confirms the argument pursued in section 4.3 that policy making from policy analysis through its formulation to its implementation and evaluation

is virtually predetermined by ethical considerations, making it far from value-neutral.

Following Taylor, the argument developed in this section is that, in spite of the evasions and suppressions of modern moral philosophies, an ethical dimension underlies all frameworks from which human activity springs. This ethical dimension encompasses more than prescriptions about right or wrong actions; it also includes the richer notions of the good life, as well as of the good that is of supreme value and thus worthy of allegiance and respect. What is more, it is not possible for people to do without such conceptions. Thus moral notions also inform the public policy arena. From this it follows logically that the identification of policy areas already implies a conception of the good life. What are commonly accepted as areas for public policy intervention are those areas which relate to life goods, and are thus central to a specific notion of the good life. Education, health and housing are some of the policy areas that obviously relate to a fundamental view that people are entitled to be properly educated, to enjoy good health and to be adequately sheltered for their lives to have meaning. The details elaborated in these policy areas further highlight the richer notion of the good life pursued through policy intervention, for example, what constitutes the main elements of basic education, of primary health care, of minimum human settlement requirements?

Whatever the constraints of public funding may be in a particular context, the ideal set of minimum standards reflected in public policy areas do portray the specific society's conception of the good life. Public policy interventions in the private sector extend beyond the limitations which public funding set to such conceptions - rights of workers in private employment is one example that springs to mind. Conceptions of the good life that drive the current development paradigm of virtually all public policies will be discussed in more detail in section 4.7.

The evasions and suppressions of the higher levels of morality brought about by the modern moral theories through their procedural approach have served to suppress clear articulation of the notions of a meaningful life that underpin public policies. Moral motives and sources are not open for discussion and debate in these moral approaches. However, if one is to obtain clarity on the content and impact of the notions of moral motives and sources as they operate in human activity, including activity in the public policy arena, they have to be articulated. This issue will be pursued

in the next section.

4.6 Articulating ethical policy dimensions

Articulation of ethical dimensions is both controversial and difficult. The first reason is that the moral basis of people's views usually remain hidden or implicit, mainly because most moral ideals are almost universally accepted. Secondly, people often resist exploring the ethical dimension. This reluctance to face the moral basis of their views arises from the gap that often exists between what people profess to believe and what actually explains their moral reactions. An important purpose of articulating the ethical dimension is therefore to reveal the real moral foundation of behaviour in contrast to the explicitly pronounced foundation. The third reason for the difficulty in articulating ethical dimensions has to do with the uncertainty and tentativeness of many moral beliefs. It is often perplexing to express the foundation of such beliefs because people are still searching for meaning (Taylor, 1989:9,10).

Despite the difficulty and often controversial nature of articulating ethical dimensions, there are, nevertheless, sound reasons for revealing and clarifying these dimensions. The first reason relates to the role that articulation of ethical orientation plays in defining one's identity. The connection between a person's identity and what is of significance to her has already been discussed at length in the previous section of this chapter. What is of importance here, is the interpretation of these issues - they can only be grasped through valid interpretation in language that articulates them in a manner acceptable to the particular person. A language community is an essential prerequisite for the existence of language. A person or self exists amongst other persons or selves. The question "Who am I?" arises within the context of this community of others; the answer to this question is the definition of own identity (Taylor, 1989:33-35).

"I am a self only in relation to certain interlocutors: in one way in relation to those conversation partners who were essential to my achieving self-identity; in another in relation to those who are now crucial to my continuing grasp of languages of self-understanding ..." (Taylor, 1989:36).

People cannot avoid interlocution, because their thoughts depend on language and language itself depends on a community of users. Defining one's identity thus involves both one's ethical orientation and reference to a community (Taylor, 1989:36,37). In this sense, then, articulation

of the ethical dimension cannot be divorced from the intricate interrelationships between self-identity and morality.

Articulation of one's understanding of the good is also important because revealing the source of morality moves one closer to it. This means that one gains insight into what the moral source entails and is thereby moved to respect the source. This respect for and allegiance to the source empowers the adherent to live up to its demands (Taylor, 1989:92,96).

The most obvious reason for articulating ethical dimensions lies in the modern dilemma of conflicting goods referred to in the previous section. In order to gain clarity in debates about different notions of the good that underpin people's moral reactions, it is essential to clearly articulate which goods are, in fact, the foundation of different actions. Distortions between officially or explicitly held positions and hidden goods that actually motivate moral actions in particular have to be revealed to improve clarity on ethical dimensions. This will advance insight into the tensions caused by adherence to a specific hypergood(s) and the consequent apparent need to give up other goods, although they may also be considered of value. The apparent need to give up other goods arises because their value seem inferior to that of the chosen hypergood(s). Articulation of ethical dimensions will also advance insight into conflicts between claims arising from the Enlightenment philosophy, such as equality, universality, freedom and rationality, and those arising from the Romantic opposition, such as individuality, intimacy, expressivity and naturalism (Taylor, 1989:98,100,101).¹³

Before the above motivation for articulating ethical dimensions in general can be applied to the public policy arena, it will be necessary to diverge into two separate arguments, the first about the importance, in its own right, of value analysis in policy analysis; the second about the context of evaluative language.

The field of policy analysis is concerned with ensuring the effectiveness of public policies. Public policies aim to ensure that the lives of policy beneficiaries are improved. Improvement in the lives of public policy beneficiaries implies that the situation in which they live is conducive to enhancing their human dignity and to enabling their personal growth. In short, public policies should create

the conditions under which people can improve their quality of life. In order to succeed in creating the minimum conditions to achieve their general aim of improving policy beneficiaries' lives', public policies need to be effective. Policies are effective when they address real problems through strategies that resolve those problems. Effectiveness in public policy making thus means, firstly, correctly identifying the "right" or actual problem and accurately formulating exactly what is "wrong" or problematic. Secondly, effectiveness in public policy making means selecting the best strategy for resolving the problems (or problematic aspects) and implementing that strategy through the most sound approach. The main elements of effective public policy making, namely identification of problem, formulation of problematic aspects, selection of best strategy and implementation of most sound approach, are all dependent on context. Clearly, what stands in the way of or is detrimental to the enhancement of human dignity and the unfolding of personal growth, thus to improving quality of life, in one society may not be so in another. This underscores the overriding importance of the social, political and cultural context of public policy making. Effectiveness in relation to all the public policy making elements highlighted above need to be measured against the particular context within which the particular policy making effort plays itself out. Thus the appropriateness of a particular public policy to its context is of supreme importance in order to ensure its effectiveness.

This brings us back to value analysis in public policy making: the value systems of both policy makers and policy beneficiaries have a crucial impact on the appropriateness of policies to their context. The analysis of value systems of policy makers on the one hand and those of policy beneficiaries on the other, will reveal the specifics of each set of players' conceptions of what human dignity means, what personal growth should entail, and thus what the content of improved quality of life would be for them. Also, such analyses will reveal what stands in the way of realising these ideals in the specific society. In addition, analysis of the value systems of public policy stakeholders will contribute to the selection of the best strategy by ensuring that the proposed strategy is acceptable both to the majority of policy beneficiaries and to the policy makers, and that it can thus be viably implemented. Value analysis can be employed in public policy making to articulate the conceptions of the good life of policy stakeholders; to reveal conflicts between various such conceptions held by different groups of policy stakeholders, and to inform debates about these conceptions and ensuing conflicting views. In this way, value

analysis can contribute to the assessment of the appropriateness of a policy approach in its particular context, and thus to the overall effectiveness of policy making.

The second argument concerns the fact that value analysis focusses on evaluative language. In order to understand evaluative language, it is necessary to understand the context of social interchange in a particular society where the particular evaluative terms are used. In addition, it is necessary to understand the kinds of qualitative distinctions that people make in that society, i.e. what their notions of the good are. Social rules and virtues, e.g. courtesy, hospitality, etc., are such evaluative terms which need to be considered against the backdrop of social interchange and societal perceptions of the good to be properly appreciated (Taylor, 1989:54,55). Thus the context within which ethical language is used determines its precise meaning.

However, this does not necessarily mean that what is considered to be right and good are totally relative and thus not part of reality. What it does mean, is that right and good are not natural phenomena that exist independent of people and their interpretations (and thus not objects of study for the natural sciences). Yet this does not mean that right and good cannot be objective, non-relative and real (Taylor, 1989:56). Those ethical terms that “make the best sense of our lives” are the only modes of reality available in the world of people.

“‘Making the best sense’ here includes not only offering the best, most realistic orientation about the good but also allowing us best to understand and make sense of the actions and feelings of ourselves and others. For our language of deliberation is continuous with our language of assessment and this with the language in which we explain what people do and feel” (Taylor, 1989:57).

Thus evaluative language provides insight into what it means to be and live as humans (Taylor, 1989:59).

The above defense against subjectivity and relativity of evaluative language that expresses moral conceptions of what is right and good links very closely to the discussion on the normative nature of policy analysis and policy making in section 4.3. In particular, Habermas’ position that the normative engagement of the social sciences can be non-ideological and objective without being detached and neutral¹⁴ is closely echoed by Taylor. Dunn’s defense of policy recommendations as rational and the ideal value context as explicable by means of motivation and ethical

arguments¹⁵ similarly emphasises that, although normative language is contextual, it can still be rational and non-relative. Taylor's point in relation to evaluative language in the moral context thus holds true also for the normative elements of public policies.

Applied to the public policy arena, the articulation of the ethical dimension underlying policy approaches in effect means that the moral frameworks of both policy beneficiaries and policy makers need to be articulated. In the case of policy analysts and other professionals included in the broad group termed policy makers for the sake of the argument here, their moral frameworks would encompass their technical frames of reference referred to in section 4.3 (on policy making in practice) above. Since a technical frame of reference signifies an integrative structure of facts and theories, methods, actions, interests and values, it can be posited that such frames form an integral component of their adherents' moral frameworks. In section 4.3 it was stated that a choice of frame is an ethical choice. The notion of qualitative distinctions or strong evaluations introduced by Taylor can therefore be assumed to be at work in the formation of technical frames of reference; qualitative distinctions will present the best account why a professional approaches her work in a particular way, as reflected in her frame of reference. In this way, qualitative distinctions both state the ethical motivation for the professional's work-related actions and define her self-identity as professional. Since her self-identity as professional forms an integral component of her self-identity as a person, it is posited that the professional's technical frame of reference is inextricably interwoven with her moral framework. It was also stated in section 4.3 that frames of reference help to explain why experts from different professions often approach policy problems and their solutions from different perspectives. A clear articulation and the subsequent analysis of the ethical principles (or, in Taylor's terms, qualitative distinctions) involved in frames will contribute much to revealing the ethical dimensions which policy makers bring to their task.

The articulation of ethical dimensions (or frameworks and frames) underlying policy approaches will in the first place serve to explicate and clarify the moral assumptions and ethical views that drive the specific policy approach from the points of view of both policy makers and policy beneficiaries. Ethical analysis should highlight both the motives and the moral sources for intended actions. Articulation will also facilitate and enhance the analysis of the appropriateness of these

moral assumptions and ethical views in any given social, political and cultural context. Obviously, both moral motives and sources should be relevant to the particular context within which public policy is formulated and eventually implemented. The appropriateness of the ethical foundation of a given policy within its social, political and cultural context should be criticised through engaging in continuous debate about the moral motives and sources underlying the policy, and its fit with the evaluative language of that particular context. Open debate about the conception of the good life which a policy approach reflects should reveal the logical consequences of its implementation.

Various approaches to achieving articulation and clarification of ethical policy dimensions are proposed in policy analysis literature. Some of these are discussed in conclusion to this section.

Policy design is represented as the sensitive pursuit of desired outcomes through debate. Analytical effort in policy analysis should be directed at three components of policy design, i.e. clarifying values in order to provide guidelines for the development and evaluation of policy options; contextualising frames of reference prevalent in the policy field, and establishing the propensity of the audience of policy analysis. The role of the policy analyst is to improve the quality of the debate by contributing useful information on the components of policy design (Bobrow & Dryzek, 1987:18-21).

In similar vein, value critical policy analysis examines the nature and operation of frames in the policy process. Thus, in value critical analysis, frames can be criticised, i.e. revealing the inherent assumptions of existing policies and the contexts that support them; frames can be built, i.e. searching for different ways of thinking about policy concerns in order to create congruence with ethical principles, and frames can be redefined and integrated, i.e. redefining different frames in order to achieve compatibility among them. "Cross-frame 'discourse'" (Rein, 1983:107) is pursued in policy analysis with a view to achieving agreement through engaging in a process of gaining insight into purposes and interests by considering alternative interpretations of these positions. In the process, frames can be transformed and agreement, which goes beyond consensus reached through compromise, can be reached (Rein, 1983:101-108). Value-critical policy analysis thus entails stating values explicitly in a rational ethical debate (Dunn, 1994:130,131).

Policy analysis should further contribute to the articulation and clarification of ethical policy dimensions through focussing on the deep assumptions of policy makers. The implicit beliefs about the goals of government agencies and about how various policy stakeholders influence or benefit from policies constitute these deep assumptions of policy makers. The deep assumptions of policy makers influence both the formulation of policy problems and the extent of possible policy solutions. Policy analysts can contribute valuably to policy making by revealing and evaluating such deep assumptions (Gordon et al., 1997:8,9).

Another approach to policy analysis propagated by Gillroy and Wade (1992:vii-ix) is “normative political analysis”. The normative dimension concerns the moral justification of policies, which provides reasons why the existing state of affairs is unacceptable and motivates the hope that policy can be improved. The political dimension concerns the collective problem solving element of public policy, and ways for coordinating strategic rational cooperation of individuals in finding such solutions. Normative political analysis thus focusses on “political-moral questions” (Gillroy & Wade, 1992:vii), i.e. on justification for using the power of the state to pursue specific goals, rather than others. Thus

“[t]he normative dimension of policy is the most essential component of any analysis. This means that collective choice is not limited to the empirical aspects of policy but also concerns the normative arguments that justify and promote one set of means or ends rather than another. We are concerned with the ethical values and moral principles that are contained in the policy argument, that direct its formulation and implementation, and that act as the standard of evaluation and accountability” (Gillroy & Wade, 1992:ix).

4.7 Environmental implications of ethical policy dimensions

In section 4.5 of this chapter it has been argued that human thinking is underpinned by frameworks which consist of moral notions of what the good life entails and of what it means to be good or to be aligned to (a) source(s) of the good, even though these frameworks are currently rarely explicitly articulated or even implicitly acknowledged. All public policies are also based on certain moral assumptions. The identification of specific conditions or situations as policy problems that warrant public attention and the formulation and implementation of public policy approaches to address what are perceived as social problems already indicate in a powerful way what conception

of the good life underlies particular public policies. A clear case for articulating the ethical dimensions of public policy approaches was made in section 4.6. The next step in the argument being developed to verify the central research thesis is to reveal the notions of a meaningful life that are reflected in the current development paradigm of public policies. Thereafter it will be proved that these notions consistently imply that the implementation of these policies will have environmental consequences that need to be considered already at the formulation stage.

It seems obvious that policies directly related to physical development, such as land use, spatial development, development and utilisation of natural resources, etc., will impact on the environment. The environmental implications of such policies would therefore be routinely considered during their formulation and implementation. As seen in the previous chapter, these are also the type of policies that may first be subjected to formal strategic environmental assessment, although this is, of course, not even the case in all instances. However, the diverse forms of public policy that do not directly relate to physical development are seldom held up to scrutiny for their environmental implications. One reason is because policies concerning social development, such as education, health, social welfare policies, do not obviously display environmental linkages. The same applies to economic and trade development policies as well as policies concerning defence and safety and security. Yet all of these policies have one central commonality, at least in the South African context, which does imply strong environmental linkages, namely a specific development paradigm linked to the two key concepts of quality of life and sustainable development.

An analysis of public policies formulated since 1994 in South Africa will confirm that all of them in some way refer to injustices and inequalities entrenched during the years of apartheid rule and to the need to redress past imbalances. Most policy goals are explicitly linked to improving quality of life. Even though sustainable development does not necessarily feature explicitly in the goals of all public policies, the concept is inextricably linked to quality of life within the development paradigm currently holding sway internationally and in South Africa.

The precise meaning attached to the term quality of life is seldom explained. However, it is obvious that the term implies some notion of the good life. Quality of life is a term that evolved

partially to extend the narrower definition of living standard. The latter term basically expresses measures of income and material and physical well-being. Quality of life indicates a richer definition of human well-being by including psychological, social, cultural and political aspects; improvement in quality of life thus broadly signifies both cultural and material gains in human life (Gow, 1992:52). Improvement in quality of life is widely accepted as the goal of development. Development is seen as a process through which people are enabled to lead dignified and fulfilled lives, reaching their full potential. Some universal aims of human development include access to resources, education, freedom from violence, a decent living standard, employment, guaranteed human rights, health, longevity or a decent average life expectancy, political freedom. Development can be assessed as successful only when it improves all these aspects of people's lives (IUCN et al., 1991:9).

A closely related concept that has gained currency over the past two decades and now stands virtually unassailable as prime objective of development, is sustainability. Sustainable, human-centred development has become the accepted vehicle for improving people's quality of life.

Although the term sustainable development was used during the 1970s, it became more popularly known through the publication of the 1980 *World Conservation Strategy* of the then International Union for Conservation of Nature and Natural Resources (IUCN et al., 1991:1). The concept gained international status through the World Commission on Environment and Development (WCED). The WCED was created by the United Nations in 1983, with the mandate "... to re-examine the critical issues of environment and development and to formulate innovative, concrete and realistic action proposals to deal with them" (WCED, 1987:356). The initial focus of the Commission was thus on the interlinkages of the environment and development. In the report resulting from their work, the Commission paid attention to a range of development issues which they related to concerns about the deterioration of the environment. It was especially the realisation of the close relationship of economic development and environmental issues that spurred the quest for a new development paradigm, one that recognised fully that "... many forms of development erode the environmental resources upon which they must be based, and environmental degradation can undermine economic development" (WCED, 1987:3). The solution to this perceived global dilemma was captured by the concept sustainable development, defined

by the WCED as “... development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987:43).

Since the release of the WCED report, *Our Common Future*, in 1987, the concept and its definition have gained wide support. It has become politically correct to approach virtually all aspects of development in the context of sustainable development. Yet the definition remains vague and open to a variety of diverse interpretations.¹⁶ This is evident from the ongoing debate in the development field about the nature and scope of sustainable development. In order to come to an adequate analysis of the concept it is important to recognise that sustainable development attempts to link virtually all aspects of development into a single paradigm. Thus it inherently refers to social sustainability, economic sustainability as well as environmental sustainability. In so doing, it also contains political nuances which have implications for the global relations between nations.

Because it is so widely acceptable as core goal, sustainable development can be interpreted to carry very different meanings for different people (and) in different contexts. Thus sustainable development could be interpreted to mean maintaining circumstances favourable to continued economic growth in support of existing lifestyles. Under this reading the same economic and social systems should be sustained through technological advances without paying attention to the existing production and consumption patterns. However, population growth in developing countries is regarded as a threat to the environment that has to be addressed. The diametrically opposite view is that existing social and technological systems cause environmental degradation and thus have to be changed. Levels of production and consumption in developed countries are unsustainable; the solution is an economic structural adjustment process dictated by environmental determinants. Thus the concept sustainable development is interpreted to integrate environmental, social justice, human rights and development issues (Kohr, 1993:16,17). Both the economic and ecological crises highlighted by the WCED and reflected in the term sustainable development are seen as resulting from the same causes, namely “... the inappropriate and wasteful economic model of the North, the unequal distribution of resources and income at global and national levels, and the inappropriate development models of the South” (Kohr, 1993:19).

The same polarisation of views can be found in the South African context, although emerging from a core consensus that the environmental and development crisis is systemic rather than natural. One side regards poverty and inequalities as resulting from capitalism being incompletely, inefficiently and inappropriately practised. Limiting population growth would constitute an important element of the solution under this approach, since rapid growth of especially poor populations is seen as the most critical threat to the environment in South Africa. The opposite view is that capitalism itself is the problem, with the environmental and development crisis emerging as but a symptom of the problem. Capitalism is portrayed as a system based on values which exploit both people and nature in order for those who wield the strongest economic and political power to survive (Aburge, 1993:11-13).¹⁷

The above polarisation around sustainable development has its roots in the debate generated by the famous 1972 Club of Rome report *The Limits to Growth*. The report highlighted the exponential rate of industrial growth, concluding that, unless trends were arrested, accelerated increases in global production of waste, resource usage and world population would result in catastrophic pollution, scarcity and famine. These predictions influenced environmentalists to conclude that zero growth had to be pursued as overriding economic objective (Jacobs, 1993:53). However, Jacobs (1993:54-56) points out that growth in Gross National Product (GNP), which serves as a measure for economic growth, does not measure consumption of natural resources or pollution. It is therefore not valid to conclude that a rise in GNP entails environmental degradation. What does matter, is the content of growth. The concept of “‘environmental impact coefficient’ (EIC) of GNP”, defined “... as the degree of impact (or amount of ‘environmental consumption’) caused by an increase in one unit of national income” (Jacobs, 1993:54) has to be introduced to measure environmental impact or consumption. This highlights the fact that deterioration of the environment and growth in the economy are more complexly interrelated than assumed by the zero growth objective. This does not negate the proposition that existing patterns of economic growth cause serious environmental degradation; however, it does clarify that it is conceivable for economic growth to continue while environmental impact is reduced. This would require major changes in consumption patterns as well as decreases in EICs that are faster than increases in GNP. Also, it is possible that the environment could deteriorate even when there is zero growth. That would be the case if EICs increase while GNP remains constant or even

decreases.

Equally important is the fact that aggregate rates of economic growth give no indication of the distribution of the results of economic activity (Jacobs, 1993:58). Thus, while a country's GNP may have increased, levels of poverty may at the same time increase if the increased wealth has not been equally distributed amongst the population. Thus poverty can and does, as was the case in South Africa in the 1950s and 1960s, continue to co-exist, even deepen, with high economic growth.

Although sustainable development can be interpreted in different ways, a critical core remains. This consists of three elements. The first is the integration of environmental and economic policy, ensuring that environmental considerations are entrenched in the theory and practice of economic policy making. Secondly, sustainable development emphasises equity. Two forms of equity are crucial, namely intragenerational equity and intergenerational equity. Intragenerational equity refers to equal access to productive resources as well as fair distribution of the products of development. It applies at national level to equal access and fair distribution among various subnational groups and areas, as well as at international level between nations, especially between developed and developing nations. Intergenerational equity refers to the conservation of the environment for the sustenance and enjoyment of generations to come, "... or the fair distribution of environmental benefits and costs between generations" (Jacobs, 1993:60). Thirdly, sustainable development implies development that includes the richer description of human welfare described above in the discussion of quality of life (Jacobs, 1993:60,61). This last element emphasises the close interconnection between the two concepts of sustainable development and quality of life.

A closer examination of the critical core of sustainable development reveals that this concept is inherently anthropocentric. The focus is strongly on people; any beneficial results to the natural environment derived from sustainable development are meant to serve people. The overarching aim of development, i.e. improving the quality of life, is obviously anthropocentric as it explicitly means that the lives of people should be improved. The accepted vehicle for achieving this aim is sustainable development, thus placing sustainability firmly on the development agenda. However, this is interpreted as sustainable human-centred development in most of the international

documents produced through the series of United Nations conferences which dealt with various aspects of development during the past decade. Thus the focus on the environment in the current development paradigm remains inherently anthropocentric.

Nevertheless, the conceptual basis of sustainable development does hold distinct environmental advantages. If the definition and core meaning of the concept sustainable development are endorsed, it is not tenable to insist that operationalisation of the concept should not affect existing economic models in any radical way. Such insistence could be explicitly expressed, as the one side of the debate earlier described seems to do. Or it can be implicitly reflected through failures to address the issue responsibly, as most developed countries seem to exhibit through their unwillingness to compromise in economic and trade relations with developing countries. The recent failure of the most powerful industrial countries to supply the means to effectively address the issue of relief to the most heavily indebted poor countries is a case in point. It has to be acknowledged that both current economic activity and environmental degradation do not even meet the needs of the present generation - widespread poverty, failures to ensure that people enjoy acceptable levels of the various aspects making up the ideal quality of life and continued deterioration of the environment defy any statements to the contrary. This situation obviously shows that future generations will also not be able to meet their needs if current economic patterns of production and consumption with their resultant environmental impacts remain unchanged. Clearly, sustainable development implies that economic policies have to change (Jacobs, 1993:61).

The equity element of the core meaning of sustainable development needs further investigation to shed light on the aspects of the good life that this concept advances. Equity and social justice goes hand in hand. In addition to equal access and fair distribution, prerequisites for social justice are equal access to knowledge, to decision making and to control. Social justice thus focusses on citizen participation in public policy making and on the involvement of local communities in operationalising development objectives (Aburge, 1993:14). Race, gender and class have to be given special attention in equity issues. Democracy, empowerment and community-building are institutional issues that are highlighted in the quest for social justice (Pezzoli, 1997:557,566). The maintenance of cultural diversity and the integrity of diverse cultures is another element of social equity that is implied in the concept of sustainable development (Stedman & Hill, 1992:1).

The issue of poverty is unavoidable within the conception of intragenerational equity. Thus the reduction of poverty has become accepted as one of the key development challenges of the current era. The relationship between poverty and the environment becomes obvious when it is realised that the majority of poor people in developing countries depend mainly on agriculture, and thus on natural resources, for their survival. Further elaboration of equity and social justice in regard to inequalities perpetuated by poverty include the focus on capacity building and empowerment of poor people. Capacity building involves individual capacity such as health and a variety of skills to take control of own life direction and development, as well as community capacity building to strengthen political, social and administrative institutions. It also implies that the poor should receive fair access to development sources and to productive activities. The fair distribution of the benefits of production is also critical to social justice. In this regard, traditionally excluded and marginalised groups should receive special attention, particularly in relation to the discriminatory history around race, gender and class (Gow, 1992:52).

Intragenerational equity and its linkages to poverty raises the closely related issues of materialism and consumerism. While many people live in extreme poverty, the majority of people in developed countries as well as the rich elite and even some middle classes in developing countries (such as South Africa) live in material abundance. Consumption of luxurious and often altogether unnecessary products by the affluent causes untenable environmental impacts because of needlessly wasteful production. The conception of the good life of even the middle classes includes consumer products, consumption patterns and materialistic lifestyles that far exceed what is necessary for comfortable physical existence - even for (or perhaps especially for) fulfilled psychological, cultural and spiritual well-being. The implications of materialism and consumerism for policy goals linked to improved quality of life in a country like South Africa with exceptionally distorted levels of income and standards of living¹⁸ could have severe environmental implications if left unarticulated. What would the implications be if, for example, improved quality of life in the South African context is interpreted as meaning that all should attain the aggregate living standard of the middle classes? If aspirations for improving the material aspects of quality of life are not tempered through an understanding of the limitations that the concomitant concept of sustainable development should hold for existing consumption and production patterns of the non-poor, the development future of South Africa could exhibit some very unpleasant environmental surprises.

The above rather cursory overview of the current development paradigm as encapsulated in the two driving concepts of quality of life and sustainable development clearly shows that policies focussed on such development goals implicitly advocate specific conceptions of the good life. The linkages between these conceptions and the environment are obvious from the analysis of sustainable development as a rich concept with a critical core that links it irrevocably to the integration of environmental and economic policies, to social equity and justice and to a rich notion of human well-being.

4.8 Conclusion

The inadequacy of current SEA practice to effectively analyse the environmental implications of policies was already made clear in the previous chapter. In this chapter, the conclusion is drawn that it is essential to actively, explicitly and fully analyse all public policies for their environmental linkages and implications in order to ensure that the strategic thrust of development plans, programmes and projects linked to policies coincides with environmentally benign intentions that should be built in at the policy level.

A main difficulty inherent in the technical approach to both EIA and SEA is the inability of their methodology and practice to deal with values. This is a shortcoming also found in the field of policy making in general, deeply rooted in the rationalism and positivism that still underpin much of the work done in the social and applied social sciences. The resultant fact/value dichotomy persists in creating ambivalence towards acknowledging values as integral component of human reality and in rendering social scientists and practitioners, including policy analysts, uncertain in their handling of value systems. The inherently normative nature of policy analysis and policy making shows the invalidity of the fact/value dichotomy.

A similar epistemological foundation operates in modern moral theories, motivating their denial of richer descriptions of morality than the lowest level of obligations. However, the linkages between human self-identity and more elevated levels of morality in the form of, respectively, ethical notions of a meaningful life or the good life and of sources of the good or that which inspires allegiance and respect, prove that it is not possible for people to live without such ethical

notions. Thus, despite the evasions and suppressions of modern procedural moral theories, notions of the good related to moral motives and sources in fact constitute human existence. In order to reveal and clarify these notions, it is essential that they are articulated. Different approaches to policy analysis that intend to deal more effectively with values and value systems in the policy making process support the call for articulation of moral assumptions and ethical foundations underlying policy approaches.

The development paradigm currently accepted as basis for and explicitly promoted in public policies worldwide and in South Africa rests heavily on the two related concepts of quality of life and sustainable development. Both these concepts incorporate an ethical dimension in terms of a rich conception of the good life. In addition, both these concepts separately, but especially in their intricate connections with one another, are inextricably linked to environmental issues. On this basis it is concluded that the envisaged environmental implications of public policies can be effectively evaluated only when the underlying ethical dimensions have been revealed and assessed for their appropriateness in the given social, cultural and political context.

This proposed approach removes the assessment of environmental impacts of policies from the limiting scientific and technical mould from which it has hitherto failed to break to the arena of human morality and environmental ethics. The move is deliberate in order to regain values and values systems from the obscurity in which they are currently clouded in EIA and SEA theory and practice. It is believed that such a move can give practical impetus to the strategic environmental assessment of all public policies.

NOTES

1. Bobrow and Dryzek (1987:5) similarly speak of “the many languages of the policy field”.
2. Anderson (1992:391) uses the example of the energy policy field, where economists, engineers, environmentalists, lawyers and scientists, among others, could all represent specific elements of the perceived policy problem.
3. It has already been stated in section 4.2 that the weak practical application of public participation in EIA and SEA undermines its potential for effectively explicating value systems underlying policy approaches.
4. The attraction of this view lies in the continuously impressive record of the natural sciences to explain complex natural events; the practical benefits derived from applied natural science, and the status natural scientists have attained from being called upon to contribute expert inputs for policy making purposes (Bobrow & Dryzek, 1987:122).

5. Other criticisms raised against the rationalistic model of decision making include that the model does not recognise the constraints upon decision making imposed by political factors - in practice, policy makers do not have unconstrained freedom to consider all possible alternatives. The rationalistic approach is also utopian in the sense that the practice of policy making is not in actuality characterized by clear objectives, neat decisions and systematic evaluation, but rather by the ambiguity of political consequences. Moreover, the approach is impractical, since it is not viable or cost-effective to review and evaluate all possible alternative solutions in order to choose the best option (Smith & May, 1997:164-165).
6. The incrementalist approach to decision making in the public policy field is accused of favouring the politically powerful in the sense that decisions are assessed simply in terms of their acceptability in a given situation rather than against objective criteria. The approach is limited in the sense that it represents decisions as occurring within the parameters of previously made decisions of a more fundamental nature without shedding light on how the latter decisions have been made. Although the approach is proposed for its very practicality, it may turn out to be much more expensive in the long term than other decision making models because of its failure to analyse less conservative options (Smith & May, 1997:166-167).
7. Three possible approaches to their role in the policy process are advised for policy analysts in the light of the connections between their epistemological suppositions, political orientation and normative beliefs, namely (1) that they should be aware of their values, but should "bracket" their assumptions, interests and biases while expressing facts as technicians. Their ethical positions and political commitments may be expressed only outside of their working environment; (2) that they should have and use the opportunity to discuss their values at work through formal normative discourse governed by rules for the rational presentation of conflicting ethical views; (3) that they should explain the intricate interrelationships of epistemological assumptions, politics and ethics to those who make use of their services (Tong, 1986:30-33).
8. There are three possible reactions when values and purposes are confronted by facts. The adherents of a particular value position may begin questioning their values while accepting the facts. In this process, the value position may be confirmed, or the completeness of the facts may be queried. Alternatively, the facts may be challenged on the basis of the possibility of different interpretations. The value position adherents may argue that these facts do not present an adequate basis for changing their values. A third possible reaction is to alter the value position on the basis of the facts (Rein, 1983:91,92).
9. This is line with Habermas' defence of advocacy and critique.
10. Taylor (1989:41,42) likens moral orientation to spatial orientation in two ways. Just as a good map informs ignorance of spatial surroundings, so a framework solves questions about the "qualitatively higher" or the ethical situation. However, to be spatially oriented also requires that a person knows where she is situated on the map. In the same way, she needs to know where she is positioned in the ethical situation, or where she stands in relation to the good. To know who one is thus means to know where one is positioned in relation to that which is ultimately important in one's life, that which gives meaning to one's life. In this sense, self-identity and ethical orientation are intertwined in the human consciousness. Making qualitative distinctions and living according to frameworks are thus constitutive of being human, and a condition from which no-one can escape (Taylor, 1989:27-33).
11. The dilemma of goods in tension can be avoided through one of two possible approaches: an uncompromising approach which affirms the hypergood totally and consistently, thus rejecting all competing goods, or an inclusive approach which attempts to combine all competing goods as effectively as possible (Taylor, 1989:65,66).
12. It is part of the human condition that the question arises whether one's life has purpose or unity. This craving for unity can be met by incorporating some notion of meaning into one's life, or by believing one's life is linked up to a greater whole. For people to inculcate some sense of meaning into their lives, they need to perceive themselves as placed in the right position to some such higher meaning or good.

This orientation towards the good impacts on the direction of people's lives; it is concerned with the issue whether they are moving towards or away from the good. Frameworks provide the context within which people ask themselves the question about their orientation towards the good. The question dealing with their basic motivation inevitably determines the direction in which their lives are moving or could move. Since people can always change direction, the question about the meaning of their lives can never be fully answered: they can always still change. Thus the question is not only what they are, but what they can become. In this sense, people understand their lives as a story, as a narrative of how they came to be in their current position in relation to the good. Looking forward, people project a future narrative of what they will become by either affirming the present direction of their lives, or by changing direction in pursuit of (a) new or different good(s). Thus people's lives are also a quest for the good, for making the past better through the future, for ensuring unity through becoming (Taylor, 1989:43-51). Taylor (1989:52) succinctly puts the argument as follows: "Because we have to determine our place in relation to the good, therefore we cannot be without an orientation to it, and hence must see our life in story".

13. The ongoing conflict in the environmental ethics field between the opposing environmental approaches of anthropocentrism and ecocentrism is, for example, rooted in the Enlightenment/Romantic opposition. Both the strong and weak versions of anthropocentrism are based on Enlightenment ideals. Rationality became the constitutive good of the Enlightenment, based on the notion of disengaged reason as a superior approach to understanding the world introduced by Descartes and developed by Locke, Berkeley and Hume. The purpose of individual rationality not dominated by outside authorities was to direct and control the world and to attain self-actualisation. In relation to the environment, the rationalist approach focusses on the control and management of nature through the utilisation of the results of scientific activities such as research producing information regarding the physical world. In the process, reason holds a dominant position over nature and nature becomes objectified.

The opposing approach of ecocentrism is based on Romantic ideals. The Romantic backlash in opposition to the Enlightenment wished to re-establish relationships with nature. In Romanticism, the constitutive good is the inherent goodness of nature. Thus the dimensions of human feelings and imagination which were suppressed by the Enlightenment exultation of rationality had to be retrieved. The inner-experiencing of emotions should bring the individual into harmony with nature and to fuller self-actualisation. Thus ecocentrism recognises the intrinsic value of nature over and against the instrumental value assigned to it by anthropocentrism. Nature has to be preserved for its own sake, not exploited for the sake of people.

(The above brief account of the Enlightenment and Romantic roots of anthropocentrism and ecocentrism respectively is based on Taylor's (1989) analysis of the influence of historical patterns of Western philosophy on modern identity, as applied to environmental ethics by Prof J Hattingh in a lecture series in 1997.)

14. Habermas' position in this regard is discussed on page 106.
15. Dunn's views on policy recommendations and the ideal value context are discussed on pages 106 and 107.
16. The wide scope of the concept sustainable development is evident from its use in the strategy for sustainable living promoted in *Caring for the Earth* (IUCN et al., 1991). The strategy is described as "... a strategy for a kind of development that provides real improvements in the quality of human life and at the same time conserves the vitality and diversity of the Earth. The goal is development that meets these needs in a sustainable way" (IUCN et al., 1991:8). The nine principles of a sustainable society further elaborates upon the scope of sustainable development. These principles are: "[r]espect and care for the community of life ... [i]mprove the quality of human life ... [c]onserve the Earth's vitality and diversity ... [m]inimize the depletion of non-renewable resources ... [k]eep with the Earth's carrying capacity ... [c]hange personal attitudes and practices ... [e]nable communities to care for their environments ... [p]rovide a national framework for integrating development and conservation ... [c]reate a global alliance" (IUCN et al., 1991:8-12).

The wide scope of the concept is also evident from the context in which it was used by the WCED. The report of the WCED (WCED, 1987) considers inequalities and backlogs in human development, environmental degradation and the linkages of these to economic development as the crisis to which it responds. It focusses on stabilising population growth; enhancing food security; preserving species and ecosystems; promoting energy efficiency, industrial development, and urbanisation and human settlement strategies as interconnected areas for attaining sustainable development. It further emphasises effective cooperation towards an international economic system which will generate growth and eliminate world poverty; joint management of the global commons, i.e. the oceans, outer space and Antarctica; continued search for world peace and security; institutional and legal change, and a global scale as prerequisites for achieving sustainable development.

The wide scope of the concept can further be seen from the outcome of the 1992 United Nations Conference on the Environment and Development (UNCED). The concept sustainable development was accepted as key to the extent that it is not defined in the Rio Declaration on Environment or in Agenda 21. Agenda 21 repeatedly uses the concept in its 40 chapters which covers the following six themes: quality of life on earth; efficient use of natural resources; protection of the global commons; management of human settlements; use of chemicals and management of waste, and sustained economic growth (Sitarz, 1993).

17. The issue of power relations in environmental politics is explicitly highlighted in this view. However, it is not only in diametrically opposing views such as those described in the text that power relations come to the fore. In fact, the question of power relations is always implicit in the concept of sustainable development. For example, power issues surface in the relationships between the poor and the affluent and between developing and developed countries that underlie the element of intragenerational equity discussed later in this section in relation to the critical core of sustainable development. Related issues of social justice and its relation to race, gender and class issues, the consumerism and materialism of the affluent and worldwide poverty are all inherently linked to power relations.

In addition, it has to be recognised that power struggles permeate all environmental issues, whether they are couched in terms of sustainable development or not. For example, the question of power relations between various stakeholders is also pertinent to EIA, as illustrated in endnotes 48 and 49 to Chapter 2 and implied in endnote 47 to the same chapter. Unfortunately the scope of this study did not allow detailed exploration of the influence of power relations on environmental and development issues.

18. Evidence in support of the very skewed distribution of wealth in South Africa is that "... 5% of the population own 80% of the land and four large corporations control 81% of corporate capital. It is an economy that favours the production of Mercedes Benzs for the 5% of the population and makes no bicycles for the 85%. As this 5% generate most of the waste, consume most of the energy and account for most of the pollution, the richer they become the more degraded the environment will be" (Abugre, 1993:12).

Also: "The country [South Africa] has one of the most skewed income distribution profiles in the world (as is reflected by a Gini Coefficient of 0,65). On average, Africans earn 13 per cent of the income earned by whites, while Asians and coloureds earn 40 per cent and 27 per cent respectively. An estimated 45 per cent of the population live in poverty. Almost all of the poor are Africans who live in either rural areas or urban slums/squatter settlements. These differentials are primarily a legacy of the apartheid system" (Department of Welfare, 1998:11), and: "The Human Development Index (HDI), the level of development of a country's population calculated on the bases of life expectancy, education and income, was 0,716 in 1994. National level figures mask huge differentials in the quality of life of the various sub-groups of the population, especially those identified by race and sex, and in the various geographical regions. In reality, the relative levels of human development are much lower for the majority of South Africans than is reflected by the above national aggregate indicators. For example, the HDI for Africans is 0,500; 0,663 for Coloureds; 0,836 for Asians; and 0,897 for whites; it also ranges from 0,470 for the Northern Province to 0,826 for the Western Province" (Department of Welfare, 1998:10,11).

CHAPTER 5

CONCLUSION - MAIN FINDINGS AND RECOMMENDATIONS

5.1 Introduction

The purpose of the concluding chapter to this study is threefold, namely to summarise and discuss the most important findings emanating from the substantive chapters of the study; to identify issues related to the main thrust of the study which could not be adequately explored within the limited scope of the research undertaken and which warrant further investigation, and to present recommendations based on the findings.

At this point it may be useful to reiterate the research approach to this study outlined in Chapter 1. The main research thesis is: it is essential to reveal the ethical dimensions of policies in order to adequately appraise the environmental implications of their further elaboration in the form of strategies and plans and their operationalisation in the form of programmes and projects. Three main premises were formulated for testing in the quest to verify the main research thesis. The three main premises on which the substantive analyses in this study focussed claimed that

- (1) the current theory and practice of environmental assessment (EA) are inadequate for preventing adverse environmental consequences of development and supporting the achievement of sustainable development;
- (2) adverse environmental impacts of development activities at lower strategic and implementation levels cannot be effectively contained unless the policy frameworks which provide their strategic direction have been fully appraised for their environmental implications;
- (3) the ethical dimensions of public policies have specific relevance for the potential environmental implications of these policies.

The discussion of findings is organised according to the main premises and the main research thesis. Thus, section 5.2 contains a discussion of the findings regarding the adequacy of EA theory and practice to prevent environmental impacts and support the attainment of sustainable development. This is followed, in section 5.3, by a discussion of the findings regarding the need

for assessing the environmental implications of policy frameworks as a prerequisite for effective EA at the lower strategic development levels as well as the implementation levels of development activities. Findings regarding the relevance of the ethical dimensions of public policies for the potential environmental implications of these policies are discussed in section 5.4. The study's main conclusion, i.e. whether the findings of the study did indeed culminate in verifying the main research thesis, is presented in section 5.5. Next, in section 5.6, some thoughts are shared on issues that surfaced in the analyses as relevant to the main thrust of the study, but which could not be explored in any depth. This section, as well as the previous one, may contain interesting ideas for future research studies. Section 5.7. contains recommendations emanating from the main findings of the study. In conclusion, a final word on the value of the research is said in the last section of this chapter (section 5.8).

5.2 Findings regarding environmental assessment

The overviews of environmental impact assessment (EIA) and strategic environmental assessment (SEA) presented respectively in Chapters 2 and 3 of this study analysed the current state of theory and practice for both these environmental assessment instruments. The comprehensive literature overviews contain many details regarding the various elements relevant to application of EIA and SEA as well as recommendations for improving their effectiveness. Detailed findings on these aspects will not be reiterated here. EA practitioners who are interested in concise descriptions of such recommendations found in a selection of recent literature on the subject may find it valuable to draw relevant indications in this regard directly from the text in Chapters 2 and 3.

This section focusses on a concise summary of the most pertinent findings relevant to the first main premise of this study, i.e. that the current theory and practice of environmental assessment are inadequate for preventing adverse environmental consequences of development and supporting the achievement of sustainable development. The initial general evaluation of EA that follows in the next paragraph highlights its main strengths. This is followed by a discussion of findings regarding its limitations, first in relation to its practical application; secondly in relation to its theoretical conceptualisation.

The overview of EA has made it abundantly clear that EIA and SEA are generally recognised as instruments that should focus attention on the potential of development activities to impact on the environment. EIA is well established in many countries as formalised procedure to predict and assess the environmental consequences of development projects. This is especially the case in relation to definitive physical development projects. The main strengths of EIA relate to its well established status - the fact that it is legally required for certain categories of development activities in many countries; that it is approached as a structured process consisting of well defined steps; that mitigation and monitoring programmes are increasingly required as follow-up to project implementation; that it is recognised as a tool for improved environmental management by government agencies and environmental authorities; that it is presented as a cost-effective way for developers to ameliorate the environmental impact of projects they initiate; that it involves the public in decision making on environmental issues; that it enhances the status of environmental practitioners and planners through assigning them a pivotal role in assessing the environmental consequences of development projects, and that it serves to highlight environmental issues as an important component of the public agenda.

In line with its less developed state, the strengths of SEA are less pronounced. Many of the cited advantages of SEA currently still remain largely on the theoretical level. Yet the theoretical conception of SEA as expanding the principles of environmental assessment to strategic decision making levels is generally accepted as sound. Thus SEA does contribute to a realisation of the importance of considering the environment during policy making and planning. SEA can also help to overcome limitations of EIA through the more effective appraisal of especially cumulative and synergistic impacts and can reduce the workloads during EIA of projects. The current decade has seen stimulating efforts to develop the theoretical base as well as the practical application of SEA. Accordingly:

Finding 5.2.1: EA is widely accepted as a valuable tool in both the environmental and development fields. It has contributed to increased attention being paid to the potential environmental consequences of development activities.

Even though it was not the purpose of this study to embark on an in-depth evaluation of the

technical aspects of EA, it is impossible not to venture on the technical level in relation to one specific issue. In section 2.5 it was pointed out that the prediction and evaluation of the expected environmental impacts of proposed projects can be regarded as the core activity in EIA. The same can be said for SEA in relation to policies, plans and programmes (PPPs). One recurring criticism found in evaluations of the practical application of EIA is that impact evaluation is one of the weakest areas. While identification of impacts seem to be less problematic, the actual prediction of impacts, assessment of their significance and overall evaluation of the environmental consequences of development activities are not effectively applied in practice. The main reasons for this situation presented in the literature are that EIA methods have been developed from the perspective of impact identification rather than from the prediction and assessment perspective; that sufficient environmental data are not available; that the dynamics of environmental systems are not adequately understood, and that impact assessment is often approached statically on the assumption that causal relationships remain constant, whereas they are, in fact, dynamic. Thus:

Finding 5.2.2: Impact evaluation, including impact prediction and assessment of significance, is a particularly weak area in the application of environmental assessment. This undermines the achievement of the main purpose of EA, i.e. to maximise positive and minimise adverse environmental effects.

Another weak area in the application of environmental assessment is that of public participation and consultation, even though public involvement is theoretically regarded as one of its main strengths. In EIA practice public participation is often poorly organised and ineffective. In addition, there are concerns about accurate representation of the actual views of local communities by proxy groups such as NGOs; about equitable representation of women, the poor, ethnic minorities and other disadvantaged groups; about the lack of sensitivity for cultural differences; about the fact that local communities are easily intimidated by the EIA process since it has been initiated from the outside and is perceived as being dominated by experts; about the limitations of the public hearing as traditional approach most widely used in public participation programmes, and about the subsequent follow-up to ensure effective use of the outputs of public participation programmes in decision making on project approval.

In SEA application the question of public participation is even more complex. Public participation and consultation are not as well developed in SEA as in EIA, due to the difficulty of public participation at wider regional and national scale; sensitivity on the part of governments about the confidentiality of policy development, planning and programming; the broader range and depth of issues to be considered at the strategic level, and the absence of clear decision making points in many policy and strategic planning processes. Creative solutions to these constraints have not yet been found in SEA, thus public participation and consultation are emphasised as essential in theory to ensure that priorities and values of the public are considered during the appraisal process without clear indications of how this could be handled effectively. Therefore:

Finding 5.2.3: Although the emphasis on public involvement is regarded as one of the main strengths of EA, many deficiencies still weaken its practical application and thus its overall contribution to the effectiveness of EA.

Another weak area of EA concerns its impact on decision making. The track record for both EIA and SEA is not encouraging. With regard to EIA it was found that results of EIA studies are not satisfactorily incorporated into decision making processes; that EIA inputs are not adequately balanced with those from other assessment techniques; that effective mechanisms for ensuring due consideration of EIA results in final decision making do not exist; that major decisions on project development often precede completion of EIA studies, and that the length and technical complexity of EIA reports obscure their implications from the public and decision makers.

The few examples in which the actual impact of SEA on decision making was evaluated, showed that its effect was minimal. One specific problem was that, in one example of SEA of two Danish bills, politicians considered only very limited summarised information on the full SEA reports, indicating that politicians themselves need to establish clear guidelines for the use of SEA results in decision making. In other examples SEA outcomes were virtually ignored.

If it is accepted that the two key elements of environmental assessment relative to planning and decision making are the informational element and the influence element, it has to be concluded that the former, i.e. scientific techniques and methodologies used to generate information on

significant environmental impacts of development actions and their consequences, is much stronger developed than the latter, i.e. processes and procedures employed to ensure consideration of this information in decision making. The next finding encapsulates the above:

Finding 5.2.4: EA results are not satisfactorily incorporated into decision making and thus fail to effectively impact on decision making about development activities.

A core weakness in the development of SEA is that its practical application is lagging behind its theoretical conceptualisation. Most case studies found in the literature relate experiences of applying SEA to concrete programmes and sectoral plans, e.g. transport and energy plans. These can be regarded as higher level projects rather than truly strategic initiatives. Very little application of SEA to overarching strategic plans and policies has occurred. The general problems regarding SEA also relate to its limited application: the costs and benefits of the method has not been properly evaluated; little training has been undertaken; little research commissioned, and few guidelines for its application established. The limited application of SEA is detrimental to its development in two ways: SEA theory cannot be refined on the basis of lessons learnt from its application, and its practical application does not spread rapidly because experience is not built and the positive effects of its use are not illustrated to stakeholders in PPPs. So:

Finding 5.2.5: Limited practical experience of SEA application retards its further development.

The increasing uncertainty and generality of planning at the more strategic levels is one issue that complicates SEA application. Increased complexity relates to establishing what information is relevant for assessment purposes; to lower precision in impact prediction, and to a greater variety of alternatives that should be considered. Furthermore, decision making forums are more dispersed and decisions points are not well defined during the policy making and planning processes. The greater level of uncertainty and complexity at higher strategic levels warrant the development of techniques tailored to the specific needs in terms of EA of PPPs. However, although this is accepted at the theoretical level, in practice SEA methodologies are still based on those of project-level EIA. Accordingly:

Finding 5.2.6: The greater levels of uncertainty and complexity inherent to strategic planning levels warrant development of specific SEA methodologies to deal with this situation.

As already stated, SEA of especially policies is still very limited. Reasons for this identified in the literature include the complexity of SEA application to policies; the vagueness of policy proposals; the continuously changing nature of policies; the wide scope of some policies, as well as lack of political and administrative will. The lack of recorded case studies to share experience in SEA application further constrains expansion of SEA of policies. The limited application of SEA to policies raises the suspicion that the EIA process as developed for the appraisal of projects is inappropriate for the appraisal of environmental implications at the policy level, as stated in the following finding.

Finding 5.2.7: The limited application of SEA to policies indicates that the appraisal process and methodologies currently recommended for EA of policies are inappropriate.

In addition to the methodological constraints to the application of SEA, political and administrative factors constrain its application. The most pertinent factors include the already mentioned assumption on the part of government that strategic planning is too confidential to allow open public scrutiny of the expected environmental impacts of government policies and plans; the perceived difficulty of incorporating environmental appraisal into the ongoing and flexible processes of policy making and planning; unwillingness of many government agencies to allow perceived infringement of environmental agencies on their terrain; the higher probability of controversial politicisation of environmental issues in relation to strategic levels, and the constitutionally untenable possibility of cabinet decisions being challenged in court if policy decisions are subject to SEA legislation. The foregoing confirms the consensus stated in SEA literature that political and administrative barriers to SEA are more critical than technical and methodological problems. Therefore:

Finding 5.2.8: Political and administrative resistance to SEA at strategic planning levels present specific constraints to its application.

Having focussed on the practical application of EA up to this point, the rest of the discussion in this section will be devoted to the conceptualisation and philosophical approaches of EIA and SEA. The main issues in this regard concerns the limited scope of EIA; the integration of EA into feasibility studies together with other types of appraisals as well as into environmental planning and resource management regimes, and its linkages with sustainability.

The main criticism regarding the limited scope of EIA is that it cannot deal effectively with cumulative and synergistic impacts. As already pointed out in the discussion of the strengths of SEA in the section preceding finding 5.2.1, SEA of PPPs has been proposed to deal with this shortcoming of project-level EIA. Although the limited application of SEA still constrains the full solution of this problem, it is accepted that the further development of SEA should do much to overcome the problem.

The integration of EA into feasibility studies together with other types of appraisals as well as into broader systems of environmental planning and resource management will receive more attention here, because, although these issues are raised in theory, there seems to be no general consensus about practical solutions or even about the need for changing the standard approach to EA.

Within EIA practice itself, biophysical environmental impacts and health, economic and social impacts are not always properly integrated. While there is fairly general agreement that social impact assessment should form an integral component of EIA, it seems that environmental and economic appraisals of the same project still usually proceed independently of each other. Economic considerations are perceived to have higher priority than environmental considerations, especially in terms of trade-offs during the final decision making phase. Engineering feasibility also still dominate environmental feasibility in the design of projects. Moreover, EIA is not integrated into comprehensive feasibility studies together with engineering, economic and financial assessments of project viability. It can be surmised that SEA results are also insufficiently integrated with results from other appraisals and into overall feasibility studies, especially of programmes and plans. This position erodes the intention of EA to overcome the inherent inability of economic and engineering appraisals to incorporate environmental issues into design and implementation of proposed projects.

Ineffective integration of EA study results with other appraisals and into feasibility study results have critical implications for decision making. As long as EIA is regarded as an isolated environmental instrument without close connections with other appraisal instruments and especially without specific significance for overall feasibility studies, it may be possible for decision making on project approval to proceed without balanced consideration of EIA results. The same holds true for SEA. Accordingly:

Finding 5.2.9: The lack of integration of EA into comprehensive feasibility studies together with engineering, economic and financial appraisals undermines its potential to ensure that environmental consequences of development projects are minimised.

In relation to SEA, its integration into planning and policy making is as crucial: unless SEA is in the first place integrated into existing approaches to policy making and planning, it cannot be expected that SEA study results will receive adequate weighting in relation to other critical areas of consideration such as social, political and economic factors. Such an approach implies that environmental factors are included into every stage of the policy making or planning process, rather than appraising policies and plans after their formulation. The implications for decision making are as critical as in the case of EIA; perhaps even more so, since the development of PPPs in general and especially of policies is the prerogative of governments, government affairs are directed by politicians, and politicians have to focus on social, political and economic issues in order to retain their voting power. So:

Finding 5.2.10: The integration of SEA into each stage of policy making and planning processes is critical to ensure recognition of the environment as important priority and proper consideration of environmental factors in decision making on PPPs.

Another area of concern regarding the conceptual basis of EA relates to its integration into environmental planning and resource management. The continued impact of EIA beyond approval of a proposed project does not receive much attention. Also, EIA studies more often than not neglect to ascertain the specific need for each development project since development is assumed to have automatic merit. This ties in with a conception of project-level EIA as a short-term

reactive process in the sense that EIA follows project planning and design before implementation and concludes its role with the production of a report for consideration by decision makers who finally approve or disapprove project implementation. Also, each project is usually assessed individually and decision making focusses on one particular project at a time. This narrow approach to EIA is based on assumptions of society and the environment as mechanical systems that can be analysed for full knowledge. These assumptions, rooted in a positivistic frame of reference, give rise to the expectation that it should be possible to predict impacts and to thereafter manipulate them in order to ensure expected outcomes with certainty. EIAs are thus seen as isolated incidents without specified relationships to ongoing environmental management. Smith (1993) therefore suggests that EIA should be redefined in order to clearly establish its place as a means of decision making about environmental planning within a clear policy framework of resource management. Thus:

Finding 5.2.11: EA should be integrated as an environmental planning instrument into a comprehensive environmental planning and resource management system.

Integration of SEA into environmental planning and resource management was not found to be an issue of particular interest in the literature. Perhaps this is because the limited application of SEA has not yet raised much awareness of problems in this regard. Only two references were found to different possible models of SEA, and these were not elaborated in much detail with a specific focus on the integration issue. The normal description of SEA, and that presented in Chapter 3, follows the same approach and steps as project-level EIA, thus it is referred to as the EIA-based or standard model. The integrated or equivalent model tries to incorporate SEA into the different decision making steps in policy making and planning. This is the approach described in the paragraph preceding finding 5.2.10 above. The formally integrated or environmental management model uses SEA as a framework for adjusting policy making and planning into a more transparent and strategic process directed by sustainability objectives. However, the latter model represents an ideal that has not yet found practical grounding. The fact that the EIA-based or standard model of SEA is the one used in theoretical explanations of the SEA procedure confirms the discussion preceding finding 5.2.6 above, where it was stated that SEA methodologies are still based on those of project-level EIA. The above discussion is summarised

in the next finding:

Finding 5.2.12: Although alternative models that would ensure better integration of SEA into policy making and planning and into environmental planning and resource management exist in theory, the least evolved EIA-based or standard model still dominates, both in theoretical discussions of SEA and in its practical application.

A last issue concerning the conceptual basis of EA is that of linking its philosophical base to sustainable development. Increasing attention is being paid to this issue in EIA theory, while the theoretical approach to SEA explicitly states, as a main purpose of its introduction, that it should serve as an instrument to implement sustainable development. Again, the emphasis is on linking EA to a framework for resource management that will achieve sustainability goals. Project-level EIA is thus regarded as an instrument that can contribute to ensuring sustainable development through its analysis of the economic, social and environmental impacts of alternatives. However, on its own it cannot achieve sustainability; it has to be used in combination with natural resource accounts and sustainability criteria. SEA is similarly regarded as a promising measure for incorporating sustainability into development. Thus SEA should strengthen appraisal procedures and methods for integrating environmental, social and economic considerations in order to promote sustainable development. However, the approach of most SEA systems to expand project-level EIA upwards into strategic levels by means of the standard SEA model cannot guarantee the achievement of sustainability. The only exception is the Dutch approach (cited on page 82 of Chapter 3), including the E-test for government policies (described in endnote 4 to the same chapter) as an emerging example of integration of SEA and sustainability.

It is very important to take cognisance of the prerequisite that EIA and SEA can only succeed in contributing to achieving sustainability goals if they are contextualised within a development approach that accepts sustainability as overall goal. This would entail that the particular government sets the environment as a critical priority and focusses on environmental protection. Again, this points to the full integration of EIA and SEA as environmental appraisal instruments within a broader context of a comprehensive environmental planning and resource management regime linked to sustainability goals and criteria, with this regime appropriately linked to the

overall development approach of the government. Two conclusions can be drawn from the above, namely:

Finding 5.2.13: The achievement of sustainability cannot be guaranteed through the approach of expanding project-level EIA upwards into PPPs by means of the standard SEA model.

Finding 5.2.14: EA can be effectively linked to sustainable development only if EIA and SEA are fully integrated as environmental appraisal instruments into a comprehensive environmental planning and resource management regime which is, in turn, appropriately integrated into an overall development approach based upon sustainability.

The first main premise of this research study referred to the inadequacy of EA to prevent development activities from impacting negatively on the environment and to support sustainable development. Finding 5.2.1 confirmed the potential of EA to prevent adverse environmental consequences of development activities. However, findings 5.2.2 to 5.2.4 highlighted crucial weaknesses in its application. Findings 5.2.5 to 5.2.8 focussed on the limited application of SEA to date and problems regarding its further development, both in theory and in practice. Criticisms pertaining to the conceptualisation and philosophical approaches of EIA and SEA were reflected in findings 5.2.9 to 5.2.14, clearly showing the negative influence of lack of integration into comprehensive feasibility studies for projects and PPPs, into policy making and planning, specifically for SEA, and into environmental planning and resource management as well as ineffective linkages between EA and sustainable development.

The overall conclusion based on these findings is that the first main study premise has been verified, as reflected in the following statement of the main finding of section 5.2:

Finding 5.2.15: Current EA theory and practice are inadequate for preventing adverse environmental consequences of development and supporting the achievement of sustainable development.

5.3 Findings regarding the appraisal of environmental consequences of policies as prerequisite for effective EA at all levels of development

This section focusses on findings flowing from the investigation of the second main study premise which claimed that adverse environmental impacts of development activities at lower strategic and implementation levels cannot be effectively contained unless the policy frameworks which provide their strategic direction have been fully appraised for their environmental implications. Section 4.2 of Chapter 4 contains a motivation in support of this premise. The motivation was approached from two perspectives: (1) the role of policies to set broad frameworks for approaches to development activities; (2) the inadequacy of EA as an instrument to effectively analyse the environmental consequences of policies.

The first argument presented the ideal planning approach to development activities as consisting of a hierarchy of strategic and implementation levels. At the top of the hierarchy is the policy, which articulates the intended approach to dealing with an identified problem. This is followed by the strategic plan, stating broad areas where action have to be taken in order to solve the identified policy problem. Thereafter the programme of action is formulated, which specifies sets of actions that should operationalise the strategic plan. At the lowest tier, projects are designed and implemented in accordance with the programme of action. In this theoretical conception of policy making and planning, each project is thus linked through its implementation role in the programme of action, to the broad implementation area stipulated in the strategic plan, and ultimately to the strategic development direction prescribed by the policy. By setting the parameters for individual projects, the policy approach already predetermines certain environmental consequences that can be expected to follow from its implementation. Therefore:

Finding 5.3.1: By providing strategic direction in development planning, policies predetermine the environmental impacts of the implementation of development activities.

The above conclusion is not a new revelation; it is the very reason why SEA was introduced. However, given the verification of the first study premise in section 5.2 above, it is clear that SEA has not produced the expected results of ensuring that potentially negative impacts of development

activities are effectively eliminated at the policy level. It was further argued that the main reason for this situation is that the application of SEA is being extended upwards through programmes and plans rather than beginning at the logical starting point of policies. Finding 5.2.13 about EIA and SEA as instruments to achieve sustainable development confirms this contention. Two reasons were given why the reverse would be a more productive approach. The first is that, given the limited impact of EA on decision making (also see finding 5.2.4 above), the application of EIA and SEA at the level of projects, programmes and even plans does not guarantee that environmental impacts will be effectively avoided at these levels. The second reason is that EA cannot be effectively linked to sustainable development unless it is integrated into a broader development approach based on sustainability principles. Such a broad development approach can effectively cascade down to lower planning and implementation levels only if it is infused into the policy level. Finding 5.2.14 above confirms the argument contained in this second reason. The following finding flows from the above:

Finding 5.3.2: The current bottom-up approach of extending EA from EIA of projects through SEA of programmes and plans to the policy level is not effective.

In the second argument in support of the second main study premise, doubts were raised about the adequacy of EA as method for analysing the environmental consequences of policies. The main reason advanced for this contention is that the technical nature of EA limits its scope to effectively consider the values and philosophical approaches underlying policy making. In the ensuing analysis of this contention, the question of values in EA was approached at two levels, firstly the value systems of professionals undertaking the assessment, and secondly those of other stakeholders in the process. In relation to the first level it was found that there is growing recognition for the fact that impact evaluation implies human judgement, and thus that EA is not a value-free appraisal method. Nevertheless, most EA practitioners still subscribe to the view that they should present “neutral” results to decision makers, without influencing the process of trading various considerations off against one another in the final decision making process. Accordingly:

Finding 5.3.3: Professionals involved in EA are generally ambivalent about the role their individual and group value systems should play in the process.

In relation to the value systems of various stakeholders in the EA process, it was found that the emphasis on public participation and consultation to some extent allows consideration of these value systems. However, given its weak application in EA in general and especially in SEA of policies (also see finding 5.2.3 above), it is not clear that public participation provides an effective mechanism for the proper consideration of the value systems of stakeholders. In addition, the value systems of policy analysts and policy makers and of authorised decision makers are never explicitly raised as an area for analysis in SEA of policies. Lastly, no reference was found to appropriate techniques to be used in the SEA process for revealing the philosophical tenets of policies. Two conclusions can be drawn from the above, namely:

Finding 5.3.4: Public participation and consultation during the EA process is not adequate to uncover the value systems of stakeholders which underlie development approaches.

Finding 5.3.5: Given its technical nature, EA is not an appropriate instrument for analysing the values and philosophical bases of policies.

On the basis of findings 5.3.1 to 5.3.5 above, it is concluded that the second main premise of the study has been verified, as stated in the main finding of this section:

Finding 5.3.6: Thorough appraisal of the environmental implications of policies is a prerequisite for the effective assessment of environmental impacts of development activities at lower strategic and implementation levels.

5.4 Findings regarding the relevance of the ethical dimensions of policies for their potential environmental implications

In this section, findings relating to the analysis of the third main study premise are discussed. This premise stated that the ethical dimensions of public policies have specific relevance for the potential environmental implications of these policies. The analysis of this premise was pursued at length in Chapter 4, from sections 4.3 to 4.7. The main elements of this analysis will be reiterated here in order to elucidate the conclusions which lead up to the verification of the third

main study premise.

As a first step in the argument, policy making in practice was analysed (section 4.3). The concept of technical frames of reference was introduced to explain the proliferation of technical languages in the policy field. A frame of reference represents a professional world view that integrates description of facts, prediction of outcomes and desirable policy agendas. Since a choice of frame, which entails the choice of research and policy agendas, implies a value choice, such a choice is unavoidably ethical. Therefore:

Finding 5.4.1: Technical frames of reference determine the approach of professionals to their work; the choice of frame is inherently an ethical choice.

Two widely held assumptions in policy making were discussed next, namely that policy analysis as an objective pursuit is the domain of profession experts, and that fact and value should be separated. Both these assumptions can be linked to finding 5.3.3 above: the separation of fact and value underlies the standard conception of decision making in EA, where experts should not attempt to influence the trade-offs by decision makers in their consideration of EA results. Thus it is often stated that the final decision is political, in contrast to the technical approach of EA practitioners, and that economic, social and political considerations may thus override the environmental considerations revealed by the EA.

These assumptions are based upon an instrumental rationalistic or scientific frame, closely linked to positivism, which informs many professional fields. Positivists believe that, because values cannot be known through sensory experience, they are no more than preferences and thus are subjective, nonrational and nonscientific. Thus, the priority of values cannot be addressed rationally. Values that determine policy purposes must be supplied by the authorities and are not appropriate subjects for rational debate. The rationalistic approach to decision making which serves as an ideal model in the policy field also supports these sharp distinctions between facts and values, between values and decisions, and between the ends and means of policy approaches. So:

Finding 5.4.2: A deeply rooted fact/value dichotomy is at the basis of assumptions about

professional neutrality and the separation of values and decisions in policy analysis and policy making. The standard approach to decision making in EA is similarly skewed by positivistic assumptions about the objectivity of professionals and the fact/value dichotomy.

In order to further pursue the question of the ethical tenets of policies as relevant for their potential environmental implications, it was proved (in section 4.4) that policy analysis and policy making are, in fact, inherently normative. First, it was shown that knowledge is not only limited to factual knowledge supplied by the sciences, but that three types of knowledge correspond to three types of human interest. These are empirical knowledge corresponding to the human interest in control of natural and human environments; knowledge derived from the historical-hermeneutic sciences, which corresponds to the human interest in understanding one another and reaching consensus, and critical knowledge corresponding to the human need for self-understanding, autonomous action and freedom. The human interest in knowledge points to critique and advocacy, with the purpose of transforming society, as integral to the social sciences.

Similarly, different types of information are used in policy analysis, namely empirical information to address factual questions; valuative information to address questions about values, and normative information to address questions about appropriate actions. Policy recommendations are based on relevant information and reasoned arguments about viable ways to solve policy problems, thus they are rational. At the same time they are normative, since they prescribe the right action.

Three arguments were quoted that negate the claim to value-neutrality in policy analysis, namely the values of stakeholders determine what is identified as a policy problem; the same information can be used to justify different policy approaches because values have been differently assessed; policy evaluation or policy advocacy, although not neutral, is rational since it can be justified through reasoned policy arguments. Accordingly:

Finding 5.4.3: Policy analysis and policy making are inherently normative rather than neutral.

A last strand of the argument advanced in section 4.4 showed that policy choices contain empirical

as well as normative elements. The normative elements entail justifying a particular set of policy goals and the means for achieving them over competing sets of goals and means. Thus, ethical values underlying the policy argument determine both policy formulation and its implementation, as stated in the next finding.

Finding 5.4.4: The normative elements in policy choice determine policy goals and the means chosen for policy implementation.

Having established that both policy analysis and its outcome in the form of policy choices about policy goals and means for implementation are inherently normative, the next component of the analysis (in section 4.5) turned to the nature of morality in order to establish what the ethical dimensions of policies entail. The ensuing analysis of morality proved that morality in effect consists of three axes. At the lowest level, morality is concerned with moral obligations, i.e. what is right or wrong to do. Moral motives is the concern at the next level, i.e. the meaning of life or the nature of the good life, while the highest level of morality deals with moral sources, i.e. that which earns respect and thus inspires and empowers.

Moral frameworks consist of qualitative distinctions about those goods which are more valuable or worthy than others. Thus frameworks represent background assumptions upon which ethical intuitions, behaviour and evaluations are based. Frameworks are inextricably linked to self-identity in the sense that a person's moral framework defines how she positions herself in relation to the good and thus simultaneously defines who she is. Because of this close connection between moral frameworks, which are made up of qualitative distinctions, and personal identity, it is not possible for people to live without the conceptions of the good which arise from their frameworks. Thus the highest goods or hypergoods to which people adhere, play the role of constitutive goods in their lives. Despite the suppressions and evasions of modern procedural moral philosophies which attempt to deny the role of qualitative distinctions, the richer conception of morality as consisting of the three axes described above has to be recognised as valid. Accordingly:

Finding 5.4.5: Morality consists of three axes, i.e the first level of moral obligations, the second of moral motives and the highest of moral sources.

A discussion of the motives for the denial of the relevance of qualitative distinctions to morality by the modern procedural moral philosophies revealed that these moral theories are in fact firmly based on strong ideals such as the central one of respect for others and its derivatives, i.e. affirmation of the ordinary life; human independence or freedom, and altruism or avoidance of suffering. These ideals are at the same time the ethical notions which define modern identity in the Western culture. Thus:

Finding 5.4.6: Strongly held views such as the notion of respect for others and its derivatives fulfil the role of constitutive goods in the modern era.

These constitutive goods serve as moral motives for defining social problems as well as for formulating possible solutions to such problems. Thus, both the conception of policy problems and policy approaches are strongly influenced by ethical notions of the good life. Legitimate areas for public policy intervention, such as education, health and housing, are those which are regarded as central to a specific notion of what makes human life meaningful, i.e. what the good life entails. The following finding encapsulates this aspect:

Finding 5.4.7: Moral motives, as reflected in conceptions of those elements that define the good life, drive the identification of policy goals as well as of the appropriate means to achieve these goals.

Given the suppressions of ethical dimensions both because of the procedural approach of modern moral theories and the inadequacy of standard policy making practices as well as standard application of EA to deal with values, it was necessary to pay special attention to the articulation of the ethical dimensions of policies (in section 4.7 of Chapter 4). Three reasons were given for revealing and clarifying these dimensions. The first returned to the close connection of morality and identity, centring on the role of interpretation and interlocution within a community of others in defining one's identity. The second reason is that articulation of ethical dimensions serve to reveal moral sources, which, in turn, brings closer understanding of the good and thus empowerment to live up to its demands. The third reason is that articulation of moral motives and sources advances clarity about different notions of the good which are often at the root of

conflicts, both in people's personal lives and between opposing parties in public disputes. So:

Finding 5.4.8: Articulation of ethical dimensions is essential in order to clarify moral motives and sources underlying different notions of the good, which form the root causes of many disputes, e.g. in public policy making.

Two separate arguments were employed to further analyse the question of articulation of ethical dimensions. The first dealt with the role of value analysis in policy analysis, the second with the context of evaluative language. Both pointed to the importance of articulation of ethical dimensions for evaluating the appropriateness of policies to their given contexts. In the first argument, it was shown that policies could only be effective if they are appropriate to their specific contexts. Analyses of the value systems of both policy beneficiaries and policy makers as two main stakeholder groups would vastly assist the evaluation of their contextual relevance. The argument about evaluative language showed that it is necessary to appreciate the social context in which evaluative language is used in order to fully understand such language. From this, two conclusions follow, namely:

Finding 5.4.9: Value analysis in policy making can assist in evaluating contextual appropriateness of policies, and can thus improve their effectiveness.

Finding 5.4.10: The context within which ethical language is used determines its precise meaning.

In the application of the motivation for articulating the ethical dimensions of policies, the concepts of technical frame of reference used in section 4.3 and that of moral frameworks used in section 4.5 were linked by showing that the latter encompasses the former. Both are ethical in nature, but a technical frame refers to the professional life of its adherent and thus forms a component of the professional's broader moral framework. It was further argued that the articulation of the moral motives and sources underlying policy approaches would explicate and clarify the moral assumptions and ethical views that drive specific policy approaches. Revealing these ethical dimensions will enhance the evaluation of the appropriateness of policies to their social, political and cultural contexts. Accordingly:

Finding 5.4.11: Articulation of the moral motives and sources that underlie policy approaches will clarify the moral assumptions that drive these policies.

Next, the ethical notions of the good life that serve to justify public policies were explored. The ensuing discussion (in section 4.7 of Chapter 4) showed that the two goals of improving quality of life and sustainable development are central to the current development paradigm. An analysis of these concepts proved that they indeed provide moral motives by representing rich conceptions of what it means to live a meaningful life. Therefore:

Finding 5.4.12: The current development paradigm is justified by ethical conceptions of the good life as reflected in its two key concepts of quality of life and sustainable development.

Further analysis of these two key concepts focussed on their environmental linkages in order to establish whether these conceptions of the good life inherently imply environmental implications. The critical core meaning of sustainable development was found to entail three elements, i.e. the integration of environmental and economic policies; social equity and justice, and a rich description of human welfare as contained in the notion of quality of life. The close connection between quality of life and sustainable development is clear from the last element as well as from the implications of social equity and justice as the second element of sustainable development. An elaboration of the meaning of social equity and justice highlighted two forms of equity, namely intra- and intergenerational equity. Equity implies equal access to productive resources and the fair distribution of the products of development as well as the fair distribution of environmental costs and benefits; intragenerational equity refers to equity between subnational groups and areas and intergenerational equity to equity between current and future generations. The issue of poverty is critical to intragenerational equity; the relationship between poverty and the environment lies in the fact that most poor people depend on natural resources for their survival. Closely related to poverty are the issues of materialism and consumerism of the non-poor and the concomitant environmental pressures of production due to overconsumption. Two conclusions have been deduced from the above, i.e.:

Finding 5.4.13: The driving concepts of the current development paradigm, i.e. quality of life and

sustainable development, are inextricably linked to environmental issues.

Finding 5.4.14: The implementation of policies in pursuit of the goals of improving the quality of life and sustainable development will logically hold consequences for the environment.

The main finding of this section rests on the conclusion that the third main study premise has been verified through the build-up of the argument as stated in findings 5.4.1 to 5.4.14. The main finding is presented as follows:

Finding 5.4.15: The ethical dimensions of public policies have specific relevance for the potential environmental implications of these policies.

5.5 Main finding: verification of the main research thesis

The main research problem addressed in this study was to establish whether it is essential to reveal the ethical dimensions of policies in order to adequately appraise the environmental implications that can be expected to follow from their further elaboration in the form of strategies and plans and their operationalisation in the form of programmes and projects. This was identified as a possible problem on the basis of two related problems. The first is the apparent failure of EA to prevent adverse environmental impacts of development activities despite the widespread application of EIA for nearly three decades and the evolution of SEA as an instrument to appraise the environmental consequences of PPPs. The second issue identified as a problem related to the main research problem is the fact that the possibility of environmental effects of policies that are not obviously or directly linked to the environment are hardly ever considered, even though the philosophical tenets of such policies more often than not do imply environmental consequences. Three main contentions were formulated on the basis of the above two problems. It was postulated that a thorough investigation of these premises would serve to verify the main research thesis. Each of these premises has subsequently been verified, as the main findings of sections 5.2 to 5.4 above attest. Thus it remains to confirm that the main finding of this study has been verified through the verification of the main findings respectively stated as findings 5.2.15 (on page 148), 5.3.6 (on page 151) and 5.4.15 above. The main conclusion of this study is therefore :

Finding 5.5.1: It is essential to reveal the ethical dimensions of policies in order to adequately appraise the environmental implications of their further elaboration in the form of strategies and their operationalisation in the form of programmes and projects.

It has to be noted that this study proceeded at the theoretical level. The main research conclusion therefore does not signal the end of the road; there is still more theoretical work to be done, as well as practical work in the form of the application of the theoretical framework to an appropriate example of a public policy. Further theoretical work would entail developing a viable procedure for analysing the ethical dimensions of policies. Although much can be deduced from the analysis contained in Chapter 4, the scope of this study did not extend to the development of a procedure for such an analysis. Useful follow-up work would therefore include identification of the elements of such a procedure indicated in this study, especially in sections 4.6 and 4.7 of Chapter 4; further elaboration of these elements from other relevant sources, and their organisation into a logical and practically applicable framework for analysing the environmental implications of the ethical tenets of public policies. Such a proposed procedure would obviously be more useful if it can be shown how it should be integrated into the current application of SEA of policies.

After its theoretical development, the viability of the procedure should be tested in practice by using it to uncover the ethical tenets of a particular public policy and assessing their potential environmental implications. The choice of policy to be submitted to the analysis should be carefully considered in order to ensure that it is an appropriate example for the purpose of demonstrating the viability of the proposed framework. Amongst possible other prerequisites, a few that are pertinent in relation to issues raised in this study are that it should comply with the definition of a policy as providing broad strategic direction to intended development activities in the particular development area, thus it should be an overarching and strategic document rather than a more detailed strategic plan; that it should preferably not be directly or explicitly related to environmental issues, and that it should be relevant to a broad spectrum of policy stakeholders in order to ensure that different value systems of broad groups of policy makers, policy beneficiaries and even policy opponents should come into play in the analysis.

Only when theoretical and practical follow-up work has been successfully completed, will it be

possible to state that the main study conclusion indeed holds true. Thus, the verification of the main research thesis served to generate a hypothesis for further empirical research. The following findings capture the above in conclusion to this section:

Finding 5.5.2: The practical viability of the main research finding can be tested through the development of a procedure for analysing the ethical tenets of public policies and assessing their potential environmental implications.

Finding 5.5.3: The practical viability of the above procedure can be tested through applying it to an example of a public policy.

Finding 5.5.4: The verification of the main research thesis of this study has generated a hypothesis for further empirical investigation.

5.6 Unexplored issues

The first purpose of this concluding chapter, i.e. to summarise and discuss the main conclusions of the study, was covered in sections 5.2. to 5.5 above. This section is devoted to the second stated purpose of this chapter, i.e. to identify issues related to the main thrust of the study which could not be adequately explored within the limited scope of the research undertaken and which warrant further investigation.

The first issue is that of the role of power relations in environmental politics. This issue was raised in endnote 17 to Chapter 4, where it was noted that the question of power is always implicit in the concept of sustainable development, e.g. in the relations between the poor and the affluent and between developing and developed nations that are critical to the element of intragenerational equity. The question of power relations between various stakeholders in EA could also only be touched on in passing, specifically in endnotes 47 to 49 to Chapter 2. What was not raised at all, but is implicit in the above cursory references to power, is the role of power in key concepts used in Chapter 4, such as moral frameworks, technical frames of reference and the development paradigm that is currently endorsed in landmark international documents on various elements of

development. The recent history of United Nations international conferences characterised by intense conflicts between developed and developing countries over issues such as their respective responsibilities towards environmental protection, access to world markets, the status of international migrants and many others perhaps provides the best examples of power relations at work in relation to the development paradigm.¹

Analyses of disputes over environmental issues, both at the more practical levels such as in EA processes and at the conceptual level such as in the development of national environmental planning and resource management regimes, should reveal power struggles just beneath the surface of explicitly stated positions. Establishing who has power, how established power is employed, who battles for power, who is dominated by whom, who will benefit from and who will be negatively affected by different alternatives, etc., will explain much about how various stakeholders position themselves during disputes. Thus it is suggested that both value analysis in policy making as such and analysis of ethical dimensions of policies will be enriched by incorporating the element of power relations. An interesting and important research study could result from the refinement and verification of this contention, especially if it is applied to EA.

A second intriguing issue that could not receive much attention within the scope of this study is that of the anthropocentric foundation of the widely accepted modern notions of the good. This issue was briefly raised on page 116 in connection with the human-centred terms in which the moral hypergood of respect for others is expressed; specifically, non-humans are normally not included as “others”. A similar strong focus on people is at work in the key concepts of sustainable development and quality of life, as pointed out on pages 129 and 130 in relation to the core meaning of these concepts. The implications for the environment of the fact that the moral motives for development are inherently anthropocentric have, however, not been analysed. Such an analysis should focus on the deep assumptions underlying the core meaning of the notions of the good life which are employed as justification for public policies, and the impact of these deep assumptions on the different interpretations of these notions. This may serve to explain why environmental considerations often seem to have lower priority in decision making on development than their economic, engineering and financial counterparts.

Another issue that was not explored in the study is not unrelated to the previous one, namely the criticism against EIA in particular that it fails to question the prevailing growth paradigm, that it operates within the given context that subordinates environmental preservation to economic growth and that it can thus be seen as sanctifying development rather than promoting environmental protection. This criticism was briefly mentioned on pages 43 and 46. The investigation of this criticism should analyse the assumptions underlying the explicitly stated acceptance of EA as an important instrument to minimise adverse environmental consequences of development activities, especially focussing on assumptions arising from economic theory and their influence on attitudes towards and expectations regarding environmental protection. It may be found that an underlying anthropocentric approach still legitimises the exploitation of the natural environment through economic activities that are expected to bring material progress to people.

The last underexplored issue is that of EA in South Africa. Although some mention was made of EIA in South Africa (see endnote 3 to Chapter 2) and of SEA in South Africa (see page 62), the current state of EIA and SEA theory and practice in South Africa was not fully investigated. Since the recent promulgation of the National Environmental Management Act (RSA, 1998) has provided a new context for EA, its implications for EA should be explored and interpreted. A clear overview of the recent history of EA development in South Africa, especially since the change of government in 1994, as well as the current state of the country's EA system and expected future development should be included in the study. Given the worldwide interest in EA in developing countries and the dearth of literature in this regard, it would be especially useful if such a study is undertaken for publication in (an) international journal(s).

5.7 Recommendations

The purpose of this last substantive section of the concluding chapter is to present recommendations based on the main findings. Given the fact that this study focussed mainly on the conceptual level, the recommendations also focus on the further development of the theoretical approach to EA and on the consideration of environmental implications in policy analysis and policy making rather than on details about the practical application of EA. The presentation of the

recommendations is organised into clusters. The first cluster of recommendations presents the main recommendation of the study together with a related recommendation about its practical implementation, while the second cluster of recommendations relates to the relevance of findings for the further development of EA systems. Subsequent clusters of recommendations are all approached as components of the proposed EA system. Thus the third cluster of recommendations focusses on the further development of SEA and the fourth on a few essential specifics of EA application. The fifth and last cluster of recommendations deals with promoting an atmosphere within which the proposed EA system can be effectively developed and applied.

5.7.1 Main recommendations of the study

The main recommendation emanating from this study obviously arises from the main conclusion, i.e finding 5.5.1. It is formulated as follows:

Recommendation 1: The ethical tenets of public policies should be thoroughly analysed and the environmental implications of these dimensions appraised as an essential component of SEA.

An additional recommendation is presented in order to give practical reality to the above recommendation, as motivated in section 5.5 and reflected in findings 5.5.2 and 5.5.3.

Recommendation 2: A procedure for analysing the ethical tenets of public policies and assessing their potential implications should be developed, whereafter its viability should be tested in practice.

5.7.2 Recommendations regarding the development of EA systems

In conclusion to the discussion (in section 5.2) of findings regarding the adequacy of EA based on the overviews of EIA and SEA respectively contained in Chapters 2 and 3, main finding 5.2.15 stated that current EA theory and practice are inadequate for preventing adverse environmental consequences of development and supporting the achievement of sustainable development. This finding was, inter alia, based on a number of findings regarding the inadequacy of the conceptual

approach to EA, specifically in relation to its integration with other forms of appraisal and into environmental planning and resource management and to its linkages with sustainable development. These findings are all directly relevant to the development and further refinement of EA systems. The main finding of section 5.3 similarly holds implications for EA systems development, as reflected in finding 5.3.6, i.e. thorough appraisal of the environmental implications of policies is a prerequisite for the effective assessment of environmental impacts of development activities at lower strategic and implementation levels. Closely linked to this finding, is finding 5.2.13, i.e. that the achievement of sustainability cannot be guaranteed through the approach of expanding project-level EIA upwards into PPPs by means of the standard SEA model. Thus, various findings have pointed in the direction of the refinement of EA systems to resolve some of the inadequacies of the current theory and practice of EA.

Before presenting concise recommendations in this regard, the basic orientation towards the proposed refinement of EA systems will be discussed. Two main issues will be addressed, i.e. the conceptualisation of EA as one component of a comprehensive and holistic approach to environmental planning and management and the basic approach to EA as a hierarchy consisting of SEA and EIA.

Although references to the conceptualisation of EA as one component of a comprehensive and holistic approach recur regularly in various guises in EA literature, it has not yet found widespread practical application in the form of revised EA systems. The approach supported here attempts to deal simultaneously with conceptual concerns about various integration issues as well as the effective linkage of EA with sustainability goals. Thus, EA systems should, first and foremost, be embedded in an overarching policy approach which rests upon sustainability as the driving concern in all policies. It is important to note that sustainability should be interpreted in its widest sense, i.e. referring to not simply environmental sustainability in the narrow sense, but effectively incorporating social, economic and environmental sustainability within a political framework - political here implying both national and global politics. Secondly, EA should form only one component of a holistic environmental planning and resource management regime which, in its turn, forms one component of the overarching policy approach. Obviously the environmental planning and resource management regime should be effectively linked to the other components

within the overarching policy context, e.g. a sustainable economic policy and a sustainable social development policy as two other components of the overall policy approach. The first two points in relation to the approach spelt out here reflect an attempt at operationalising finding 5.2.14.

Two additional linkages need to be made between EA and other procedures within this holistic environmental planning and resource management regime. EA needs to be incorporated into existing policy making and planning procedures in order to operate effectively and achieve its main purpose of maximising positive and minimising adverse environmental impacts of PPPs and projects. The integrated or equivalent SEA model referred to in the discussion preceding finding 5.2.12 could be investigated in order to determine its viability for operationalising this aspect. This aspect captures the thrust of finding 5.2.10. In addition, EA needs to be incorporated as an essential component next to and equal in status to other assessments such as economic, financial and engineering appraisals within comprehensive feasibility studies. This is especially pertinent in relation to EIA of projects, where engineering and economic assessment results seem to take priority over EIA results in decision making on project approval. Finding 5.2.9 serves as basis for this aspect of the proposed approach.

The second main issue regarding the basic orientation towards refining EA systems is that of an hierarchical approach to EA starting with SEA of policies. Early on in its development the idea of a tiered approach to EA was mooted: EA should commence at the overarching policy level from where the results of the assessment should be used as a basis for evaluating the need for full-scale EA at the next level of strategic plans, and so on, down to project level. Although this idea served as the basis for the development of SEA, the proposal of starting at the top of the hierarchy was never made practical. Thus project-level EIA proceeded apace, usually as isolated incidents without consideration of the cumulative effects of various projects. When problems regarding this approach were identified, SEA was initiated as a solution, but as an extension of project-level EIA, and not vice versa as the original intention seems to have been. Findings 5.2.6, 5.2.7, 5.2.12, 5.2.13, 5.3.2 and 5.3.5 as well as main findings 5.2.15 and 5.3.6 all attest to the inadequacy of this approach. Thus it is proposed here that a prerequisite for effective EA systems is that a top-down approach of starting with EA by means of SEA at the level of policies should be followed instead of the current bottom-up approach of expanding project-level EIA upwards to PPPs by means of

the EIA-based or standard model of SEA. Recommendations 3 to 7 below reflect the above discussion on the development and refinement of EA systems.

Recommendation 3: A holistic environmental planning and resource management regime should be developed as one component of an overarching policy approach which rests upon sustainability as driving concern of all public policies.

Recommendation 4: EA systems should be revised to form one component of the holistic environmental planning and resource management regime proposed in recommendation 3.

Recommendation 5: The revised EA system should adopt a hierarchical approach where policies are first appraised by means of SEA, whereafter the implications of these appraisals are taken into consideration for appraisals of plans and programmes at lower strategic levels as well as for project-level EIA.

Recommendation 6: SEA should be incorporated into policy making and planning processes in order to ensure that environmental implications of PPPs receive proper consideration throughout all phases of policy making and planning.

Recommendation 7: EA should be incorporated into feasibility studies as an essential component of equal importance alongside other appraisals in order to ensure that EA results receive the same consideration as, for example, economic, financial and engineering appraisal results.

5.7.3 Recommendations regarding the development of SEA

As stated in recommendation 5, SEA should be repositioned as the instrument for assessing PPPs within a revised hierarchical EA system. The recommendations relating to SEA proposed in this section should be viewed within this context, i.e. SEA of policies should be the starting point for appraising the environmental impacts of development activities linked to a particular policy area. Recommendations 3 to 7 above thus also relate to SEA, specifically its position within a reconceptualised EA system, but will not be reiterated here. The following discussion and

recommendations concentrate on the further development of SEA that has been embedded into the proposed EA system.

Finding 5.2.12 states that, although alternative models that would ensure better integration of SEA into policy making and planning and into environmental planning and resource management exist in theory, the least-evolved EIA-based or standard model still dominates, while the need for specific SEA methodologies suited to the greater levels of uncertainty and complexity inherent to strategic planning is emphasised in finding 5.2.6. Finding 5.2.7 also postulates that the limited application of SEA to policies indicates that the process and methods currently recommended for this purpose are not appropriate. Thus, it seems clear that a first step in repositioning SEA would be to investigate and develop alternative models to the EIA-based model that would be more appropriate to the peculiarities of PPPs.

A contention consistently pursued in this study was that EA of policies warrant a different approach and methodologies because of its different nature and content than plans, programmes and projects, in the sense of providing strategic direction to development activities at the lower tiers. Thus a differentiated approach to EA at each of the different planning levels may well be necessary in order to accommodate the different nature and purpose of policies, plans and programmes. Given the strong probability of different types of policies, plans and programmes, it may even be best to develop a broader framework procedure for SEA at each of the levels, to be adjusted as appropriate in accordance with the type of each particular PPP to be assessed. For example, it may be appropriate to design a suitable broad procedure for SEA of programmes, different from that for SEA of policies and plans. Once this has been established, the nature of each specific programme to be assessed could be evaluated and the framework procedure adjusted to provide a tailor-made process for the specific SEA study. For example, the EA of a concrete programme such as the development of a city transport network could very well closely resemble project-level EIA since such a programme would have much in common with a large-scale physical development project. On the other hand, a job creation programme for rural youth at the provincial level is a much more complex venture, covering a much wider area, involving many more and diverse stakeholder groups, and consisting of a greater variety of activities. The EA of such a programme will therefore have to be designed to cope with greater levels of uncertainty and

complexity and thus should use more innovative methodologies and techniques rather than relying on the traditional EIA-based ones.

While SEA at each of the three strategic levels and also project-level EIA should be designed to deal better with the issue of values and ethical approaches to development activities, it is especially at the highest strategic level of policies where a component designed to assess the environmental implication of the ethical tenets of policies should be incorporated into the SEA procedure specifically designed for policy appraisal. This ties in with recommendations 1 and 2 as main study recommendations. Finding 5.3.4 is also relevant here, since it raises the issue of uncovering the value systems of stakeholders by means of public participation and consultation.

Lastly, the discussion leading up to finding 5.2.5 and the finding itself highlight the fact that the further development of an instrument such as SEA can only be advanced by means of gaining experience through regular application, so that theory and practice can be refined through lessons learnt from its ongoing use. Thus, even though the refinement of SEA as proposed above is seen as ideal, this does not imply that the practical application of SEA, especially to policies, should be halted awaiting better proposals for its application; rather, application of SEA to policies should become more commonplace so that, regardless of deficiencies, the experience gained can feed into its refinement. It should also be emphasised that the development of new methodologies and techniques should be ongoing throughout SEA application and experience gained in this regard should be widely disseminated to as many EA theorists and practitioners as possible.

The following recommendations are proposed for the further development of SEA in addition to those regarding its positioning within a revised EA system as part of a comprehensive and holistic policy approach based on sustainability.

Recommendation 8: Alternative models to the EIA-based model of SEA should be investigated and developed in order to better accommodate the strategic nature of PPPs.

Recommendation 9: Consideration should be given to developing differentiated procedures for policies, plans and programmes respectively in order to cater better for the different strategic

planning levels.

Recommendation 10: Consideration should be given to developing framework procedures for policies, plans and programmes respectively so that a specifically suited process can be designed for each assessment of a PPP in accordance with its particular type.

Recommendation 11: One component of SEA should entail a procedure for the analysis of the ethical tenets of especially policies and assessing the environmental implications of their operationalisation in plans and programmes and their implementation in projects.

Recommendation 12: The development of different methodologies and techniques than those based upon project-level EIA to better deal with the higher levels of complexity and uncertainty at strategic planning levels should receive intensified and ongoing attention.

Recommendation 13: The redefinition and development of better approaches to SEA should not deter its application to SEA of policies; even though less than ideal procedures, methodologies and techniques may be used, the experience gained will produce valuable lessons for the future development of solid policy-SEA.

5.7.4 Recommendations regarding EA application

Given the overarching recommendations already made in relation to EA systems and SEA, little remains to be said specifically about EA application. While there is much room for improvement in both technical practice of impact assessment and application of EA procedures, no details will be gone into here. Only three areas highlighted in section 5.2 not yet incorporated into the previous recommendations will be discussed. These are impact evaluation, public involvement and decision making.

Finding 5.2.2 reflected the concern that the weakness of impact prediction, assessment of significance and overall impact evaluation undermines the achievement of the main purpose of EA. Since it is the core business of the technical content of EA to provide clear information on

impacts for use in decision making on development activities, it is important that this aspect should be improved. On the one hand new and improved techniques should be developed; on the other, existing techniques should be applied with care. Quality control mechanisms should also be developed where they do not yet exist, and effectively applied where they do. Lastly, reviews of EA study reports should pay specific attention to this aspect and EA study teams should, if necessary, be required to improve the quality of impact evaluation before finalising reports.

Recommendation 14: Particular attention should be paid in the ongoing development of appropriate EA methodologies and techniques to better ways of predicting impacts, assessing their significance and evaluating their relative importance against one another. At the same time, the use of existing methodologies and techniques for the same purpose should be rigorously applied and the overall quality of these aspects should be reviewed before the finalisation of EA reports.

A discussion of the deficiencies of public participation and consultation in EA practice supported finding 5.2.3. The various deficiencies highlighted in the discussion will not be reiterated in the ensuing recommendation; those interested in following up this recommendation can peruse that discussion as well as preceding references to public involvement throughout the substantive chapters of this study report in search for pointers as to details in this regard.

Recommendation 15: Since public involvement is a key element in environmental assessment to ensure that values and priorities of the affected public are incorporated into the process, this area should be a specific focus of effective ongoing implementation as part of EA processes as well as of further development in both EIA and SEA.

Finding 5.2.4 stated that EA results are not satisfactorily incorporated into decision making and thus fail to effectively impact on decision making about development activities. This is a very serious concern; perhaps the most serious about the current practice of EA. The strong opinion was developed during the course of this study that this problem is linked to the conceptualisation of EA; in fact, so closely linked that it is postulated that this problem cannot be effectively overcome without integrating EA at more than one point, i.e. into feasibility studies for projects and PPPs to ensure that EA results receive proper weighting in relation to results of other

appraisal studies undertaken in relation to the same project or PPP; into policy making and planning processes in the case of SEA of PPPs, as well as into holistic policy frameworks for environmental planning and management. Thus it is contended that the implementation of recommendations 3 to 7 should go a long way towards solving the critical problem of EA (lack of) impact on decision making.

However, given that the implementation of these far-reaching recommendations will take some time to influence the current decision making problem in EA practice, if they are indeed implemented, decision making practice can be improved if the approach to the presentation of EA results is changed. In this regard, findings 5.3.3, 5.4.1 and 5.4.2 are relevant. These findings referred to the ambivalence of professionals about the role of their own value systems in the process; to the inherently ethical nature of choice of frame of reference, and to the skewed nature of the standard approach to EA decision making on the basis of positivistic assumptions about the objectivity of professionals and the fact/value dichotomy. This leads to the suggestion that EA practitioners, having taken cognisance of these findings, should reconsider their approach to their own role in the EA process. They need to actively engage with the question about the part they should play in ensuring proper weighting of EA results; they should seriously ponder whether the ideal of professional objectivity necessarily means neutrality or rather rational engagement with their professional outputs. The analysis of the normative nature of policy analysis and policy making is specifically relevant here, where it was shown that critique and advocacy need not be nonrational. The same applies to EA. Would it not be more professional to present a clear interpretation of the implications of various alternative trade-offs during the decision making process than to pose neutrality, providing only so-called neutral information to decision makers and then pleading technical professionalism when environmental implications are not adequately considered?

Recommendation 16: EA practitioners should reconsider their role in the EA process in relation to ensuring proper weighting of EA results during decision making. In particular, they should consider including clearer interpretations of the implications of various alternative trade-offs as part of EA study results in order to advocate the most balanced and overall beneficial outcomes to decision makers.

5.7.5 Recommendations regarding a conducive context for a revised EA system

The proposal regarding a revised EA system as an environmental planning instrument within a comprehensive environmental planning and resource management regime, embedded in a broad sustainability policy approach, sketches a big picture which may seem elusive, especially since similar ideas have for some time now been presented in EA literature, apparently without lasting effects in the form of widespread major national initiatives to transform EA systems accordingly. Therefore, the last cluster of recommendations aims to address various activities in support of the proposals regarding redefining EA systems. These activities should contribute to creating an enabling atmosphere for acceptance of the need for transforming existing EA approaches and systems. These activities fall under the umbrella of what is, in some specialised development fields such as population and development, termed information, education and communication (IEC). They can also be viewed as advocacy activities with a view to convincing various target groups of the validity of the identified need for change. Thus the aim of these IEC and/or advocacy activities is to communicate relevant information to target groups in order to create awareness, promote recognition of identified problems and advance acceptance of the proposed direction of possible solutions.

Main target groups of these activities should include three broad groups, namely decision makers; EA theorists and practitioners, and the public. The first group, i.e. decision makers, would be those with the authority to decide about policies and EA systems, e.g. politicians at national and provincial levels, managers in government agencies, etc. EA theorists and practitioners refer to those involved in shaping EA approaches, either in theory or in practice, and those implementing EA. This group would include environmentalists, academics, researchers, private consultants, government officials who administer EA systems and private developers. Obviously the public is a very broad target group. Thus it will be necessary to segment the broad group into differentiated stakeholder groups, e.g. environmental lobby groups, various types of NGOs, etc.

The main aim of the IEC programme should be to convince stakeholder groups of the need for refining EA systems described above. Thus, information would have to be provided about alternative models for EA systems, including SEA and EIA, their comparative strengths and

limitations, and the major advantages of the proposed system. Obviously, study findings quoted in support of recommendations 1 to 13 would again be used as supportive information.

Another aspect of the proposed revised EA system entails its hierarchical structure with SEA of policies as the first step. The underlying reasons for this suggestion are captured in findings 5.3.1, 5.4.3 and 5.4.4 which respectively state that, by providing strategic direction in development planning, policies predetermine the environmental impacts of the implementation of development activities; that policy analysis and policy making are inherently normative rather than neutral, and that the normative elements in policy choice determine policy goals and the means chosen for policy implementation. This type of information should be presented in appropriate ways in order to provide the overall motivation for the need for a hierarchical EA system where SEA of policies forms the first step.

The need to incorporate an ethical analysis element into SEA in order to better appraise the environmental implications of policies will have to be motivated and promoted strongly through the IEC programme. This idea is likely to meet with some initial resistance from decision makers and EA theorists and practitioners alike. One reason is that this proposal moves away from concrete explicit matters to the underlying motivation, a focus that is usually sublimated and not naturally considered by decision makers, practitioners and even theorists coming from strong scientific and/or managerial backgrounds, be it in the natural or social sciences. The other reason is that the engagement with assumptions and notions termed moral or ethical may be experienced as threatening, again because these are not normally explicitly addressed. Also because these are normally regarded as personal or private, given the strong tradition of the fact/value dichotomy and so-called professional objectivity in both technical processes such as EA and in policy analysis and policy making. Thus, the logic about moral motives and concomitant notions of the good life that justify policy choices in the form of both policy goals and the means to achieve the goals will have to be made clear through IEC. Since findings 5.4.5 to 5.4.7 reflect this logic, their essence should be incorporated into suitable IEC messages and materials.

In addition, the need for articulating, clarifying and analysing the ethical dimensions of policies will have to be strongly motivated through explaining and promoting the gist of findings 5.4.8 to

5.4.11, which all attest to the value and importance of articulating ethical dimensions and of value analysis in policy making. Lastly, the argument that the driving concepts of the current development paradigm indeed hold environmental implications and their relevance for the environmental implications of policy implementation will have to be conveyed and its logic in relation to environmental appraisal of policies advocated. Main finding 5.4.15, supported by findings 5.4.12 to 5.4.14, serves as basis for this aspect of the proposed IEC programme.

Another aspect of the IEC initiative should address political and administrative resistance to SEA, as suggested by finding 5.2.8, which stated that political and administrative resistance to SEA at strategic planning levels present specific constraints to its application. Within the enabling atmosphere created by the proposed IEC programme, it should be possible to approach these concerns constructively. Reasons for such possible resistance should be honestly presented to decision makers and the opportunity created for openly debating the extent to which they present real problems in relation to SEA application. Solutions to such problems should be debated and refined as part of the ongoing improvement of SEA as suggested in recommendation 13 above.

The following recommendations capture the above proposal for creating a conducive context for revised EA system more concisely:

Recommendation 17: An information, education and communication (IEC) programme should be designed and implemented to create an enabling atmosphere within which the proposed revised EA system is supported.

Recommendation 18: Elements of the IEC programme specifically intended to promote acceptance of EA systems as a hierarchical structure with SEA of policies as the first step, should include motivations for the need for such an approach to EA as well as for the incorporation of an ethical analysis element in SEA.

Recommendation 19: Political and administrative constraints to SEA application should be openly debated within the proposed IEC programme in order to incorporate viable solutions into revised SEA procedures and methodologies.

5.8 Final word

In section 1.3 of Chapter 1 the orientation to environmental ethics as point of departure for this study was described as relevant to all human actions as they affect the environment. In line with this practical approach to environmental ethics, the purpose of this study was similarly described as very practical, even though the analyses proceeded on the theoretical level. Thus, the purpose of the study was stated as that of clarifying certain theoretical contentions in order to clearly articulate them and provide a verified basis for practical use.

Further to this explicitly stated practical intention, it is hoped that the findings and recommendations contained in this chapter will find resonance with those engaged in practising EA and in shaping its future. It is trusted that the study results will feed into the ongoing search for solutions to the limitations of EA in practice and the need to operationalise SEA more effectively. In particular, the critical relationships between environmental appraisal instruments, holistic environmental planning and resource management and sustainable development as key to the concern about the actual influence of these instruments on decision making about development activities were clearly demonstrated. Also, the potential contribution of thorough analysis of the ethical tenets of policies in order to more effectively appraise environmental consequences of development planning at its roots was well motivated. A satisfactory outcome of this research would be if it can in some way enrich the investigations into the development of SEA guidelines for South Africa currently being undertaken by the Department of Environmental Affairs and Tourism in cooperation with the Council for Scientific and Industrial Research.

NOTES

1. An interesting example of power relations at work in the international arena is the virtual hijacking of abortion as moral issue by the Vatican during the International Conference on Population and Development in 1994. A closer examination of the Vatican delegation's positioning during this event reveals that the underlying motivation was that of establishing the Roman Catholic Church as ultimate moral authority within the community of nations. In this power play, the situation of women with regard to reproductive choice and the question of personal moral responsibility were totally subordinated to the ideological question of which world power has authority to dictate moral choices of individuals.

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