A CRITICAL ANALYSIS OF THE SOCIOECONOMIC IMPACT ASSESSMENTS OF THE ADDO ELEPHANT NATIONAL PARK

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ABSTRACT

Impact assessment is a requirement for development in many countries across the globe, seeking to inform the decision-maker as to the environmental, social and economic impact of an ongoing or proposed project. Socioeconomic impact assessment (SEIA) is a means of informing decision-makers as to the socioeconomic effects a project could have, or is having, thus contributing to informing adaptive management practices. However, the tendency of socioeconomic impact assessment to highly quantitative economic methods of analysis raises the question of whether the desired results are achieved by the process.

The purpose of the research was to determine whether highly quantitative forms of economic analysis are suitable for measurement of impacts in a social context where distributive as well as net impact is important; to critically analyze the method utilized in achieving highly quantitative economic impact assessment results; and lastly to draw conclusions and make recommendations regarding the efficacy of monitoring processes used to inform adaptive management practices.

The research was conducted by means of a case study focusing on three SEIAs carried out on the same entity, namely the Addo Elephant National Park. Managed by South African National Parks (SANP), it began expanding its borders in the early 2000s. Funded by the World Bank, SANP was required to carry out a comprehensive Strategic Environmental Assessment (SEA) in 2003 to ensure the expansion did not have negative environmental, social and economic repercussions, and where such consequences were unavoidable, to ensure that mitigation and management thereof was informed by useful monitoring exercises. Given the need for resettlement and issues of economic distributive concern raised in the 2003 SEA, the three socioeconomic impact assessments conducted from 2005 – 2010 as part of the ongoing monitoring exercises formed an ideal framework for answering the primary research questions.

The findings indicate that despite consistent terms of reference, different assessors interpret mandates from the commissioning body in different ways, leading to varied

applications of the same theory, some methodologically better than others. Economic multiplier analysis was found to be inadequate as a measure of the distributive effects of economic impact. Moreover, a lack of consistency, accountability and transparency in the monitoring process led to three sets of results that were incomparable over time and thus inadequate as a means to inform adaptive management practices. Asymmetries of and between power and expertise in the commissioning body and the assessors led to breakdowns of the assessment process in terms of accountability and integrity and resulted in a failure to properly define the scope of the study and measure the relevant indicators.

The following recommendations were made: that the economic multiplier method be complemented by additional methods of analysis when utilized in disparate social contexts where distribution of economic benefit is important; that monitoring practices be systematized at an early stage of the process to ensure comparable results useful in informing ongoing management practices; and that what an assessment measures and how it measures it be clarified with reference to an objective source. Finally, the number of factors for consideration in any impact assessment means that measurement of the full picture suffers resource constraints, emphasizing the need for impact assessment oversight to recognize the deficiencies of the process whilst still acknowledging that 'some number is better than no number'.

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ACRONYMS

AENP	Addo Elephant National Park
SANP	South African National Parks
EIA	Environmental Impact Assessment
IA	Impact Assessment
SEIA	Socioeconomic Impact Assessment
SIA	Social Impact Assessment
GEF	Global Environmental Facility
TOR	Terms of Reference
SAM	Social Accounting Matrix
I-O	Input-Ouput table
CES	Coastal and Environmental Services

Chapter One

INTRODUCTION

"Knowledge is power. Information is liberating."

Kofi Annan

The state of global economic development has seen rapid advance over the past two centuries. With global population rising at a daily rate of 200 000 (US Census Bureau, 2009), world energy demand set to rise by 50% by 2030 (World Energy Outlook, 2005), and levels of global poverty reaching close to 50% (World Development Report, 2005), the need for a holistic approach in strategic economic development is growing. The globalization of the world economy and, increasingly, the world population, affords little room for poor policy making as what impacts on a region or a nation will now have a global effect. The world finds itself in a situation where rates of economic development must be sustained in order to ensure the social upliftment of the world's abundant poor, and yet be achieved remaining cognizant of the negative effects that hasty economic development can have (Weeks, 1999). These negative impacts will affect the environment and society and ultimately the economy, which they sought to boost. As the USA has recently acknowledged, private enterprise, driven primarily by profit-seeking action, must be soundly regulated to ensure development does not harm both the social and ecological environments in which it takes place (BBC, 2010). In the face of the recent global recession, it could be argued that no real sustainable socioeconomic development can take place without adequate regulation.

It is in this context that impact assessment was born, signalling a move from a retrospective view of development and the consequences thereof to a proactive positive approach (Becker, 1997: 35). Impact assessment is a means to an end; it is commonly utilized in determining the extent of the cause and effect relationship between decision making and its economic, environmental, and social consequences (Becker, 1997; Conningarth, 2008a; Snowball, 2008; Barrow, 1992). Well-informed decision-making can ensure that development is more sustainable, as better developmental decisions can be made when reliable flows of information exist between the developmental action, its consequences, and the decision-maker. Besides its informative role, impact assessment is also meant to recommend alternative methods of approach or management, which could mitigate negative effects the development/project/policy/event could have on the broader environment. Thus impact assessment, properly carried out, shapes the process of decision-making to ensure due regard is given to the context in which the decision is made (Graham Smith, 1993; Vanclay, 2002).

While impact assessment originated in the latter half of the 20th century with an environmentally informative role in mind, it quickly expanded to include other social and economic aspects (Becker, 1997). Methods of ensuring that developmental processes are fully investigated in terms of their socioeconomic implications and that decision-making authorities are properly informed as to these implications can be useful in achieving policy objectives in the right manner. The purpose of social and economic impact assessment is to aid decision-makers in achieving a balance between present need and future cost, whilst still maintaining a movement towards greater social equity (Vanclay, 2003). This is specifically relevant in the decision making process behind project development, where politicians are responsible for the making of complex developmental decisions encompassing a milieu of socioeconomic consequences.

Social, economic and socioeconomic impact assessment

Social impact assessment (SIA) is essentially a consideration of the 'people' impacts of a project / event / development (Taylor *et al.,* 1990). Economic impact assessment is, in contrast to SIA, focused more on the economic implications of a proposed development. Because economics is a 'social science', an SIA can include economic factors and means

of assessment in the scope of its study – as Vanclay (2004: 279) argues, the nature of the term 'social' is an all-encompassing one, including those factors and variables which could in some way impact on the very fabric of society itself. On the other hand, an assessment termed 'economic' is unlikely to be very inclusive of purely social indicators, tending more towards a quantitative means of analysis ill-suited to measurement of social factors (Scrase and Sheate, 2002: 291).

It is, however, difficult to generalize as to norms in the naming, or *terminology* of impact assessments. In some countries, and South Africa is an example, there are clear legislated differences between 'social' and 'economic' impact assessment (Van Zyl *et al.* 2005). On the other hand, in practice the scope of a study and the nature of an assessment can tend to be determined more by the terms of reference and the training of the assessors than what the assessment is called (Juan, Wu and McDonald, 2006). This raises an interesting debate – namely should an impact assessment – its scope and indicators measured – be determined by what it is called, or should terminology be a non-issue and assessments differ in what and how they measure depending on the nature of the circumstances and context at the time? The uncertainty around this issue is further complicated by the amalgamation of the terms 'social' and 'economic' impact assessment into 'socioeconomic impact assessment'.

Socioeconomic impact assessment (SEIA) is a term that is loosely applied in practice, leaving speculation as to its precise meaning (Vanclay, 2004; Van Zyl, 2010). Clearly it is purposed to be an assessment process that takes into account both social and economic variables, but the extent to which each is considered and which receives more weighting varies from assessment to assessment and is a topic of much debate (Scrase and Sheate, 2002: 291; Vanclay, 2004: 279; Taylor *et al.,* 1990: 167; Benjamin, 1981: 154). The philosophy behind a joint assessment of social and economic variables rests on the premise that social and economic factors are, ultimately, irretrievably connected. Consideration of social factors must of necessity lead to an assessment of economic factors which will in turn have some effect on the society as a whole (Taylor *et al.,* 1990: 167). In practice, what indicators an SEIA measures depends on a number of variables including the terms of reference, the training of the assessors and the nature of the

context. Barrow (1997: 6) held that the SEIA tends towards the technical means of ascertaining qualitative outcomes through quantitative methods. Vanclay (2002) contended that economic aspects of development are by their quantitative nature easier to assess than the relatively qualitative nature of social aspects that could arise from a development project. For this reason Scrase and Sheate (2002: 291) held that impact assessments can tend towards a primarily economic paradigm of theory and method.

The tendency towards a quantitative form of analysis complicates the uncertainties of the terminology debate and the lack of clear guidelines across contextual differences as to what factors should be assessed, and how. It is particularly important to ensure that highly quantitative means of economic analysis in SEIA provide outcomes relevant to the important issues of sustainability and 'our common future', especially in developing countries where the distributive effects of economic growth are often overlooked in favour of net growth. As Swamy (2004: 207) says, to develop a nation requires more than simply the allocation of credit, granting of funding, or injection of cash. Zoellick (2010), the World Bank President, holds that due regard should also be given to ensure that the *effects* of the funding are as desired, i.e. resulting in positive socioeconomic development. The *nature* of this development is important – that it does not only result in e.g., increased average per capita incomes, but also a more equitable outcome in terms of wealth distribution. As Swamy (2004: 204) says: "Mere credit flow does not bring about qualitative changes – the judicious use of credit and monitoring to avoid diversion is what matters."

Research questions

Despite its usefulness and the widespread legislated recognition thereof, impact assessment within a socioeconomic framework faces considerable criticism and debate as to the accuracy or suitability of its method and process to forecast / measure socioeconomic consequences arising as a result of developmental funding (Vanclay, 2004; Snowball, 2008; Crompton, 1999).The process can fail in one of two primary ways: firstly, the method in terms of the approach chosen, data collection processes used, data analysis etc. is poorly applied – a *methodological* failure. Secondly, the methods, approach, and nature of the impact assessment tool are simply unsuitable for the aims which it is

required to achieve and the context on which it must inform – a *structural* failure. This is particularly true in the instances where the SEIA is guided by a strong emphasis on highly quantitative economic methods, leading to three primary issues for research and debate:

1. Qualitative change is the ultimate purpose of economic growth and development. However, measurement of change is easier by quantitative means. The question then arises: How useful are quantitatively grounded SEIAs with a strong focus on economic analysis to the assessment of development where distributive as well as net change is important? What an impact assessment is called – social, economic or socioeconomic – and the effects this has on the scope of the assessment (the terminology debate) further complicate this issue.
2. Secondly, how are the highly quantitative methods used in impact assessment of an economic nature applied? Is there room for improvement in the purely methodological aspects of analysis of change by economic means?
3. As Taylor *et al.* (1990: 88) said, "monitoring has direct application in the management of social change that arises from a project or programme". The potential to consider impacts over time rather than a once-off picture allows for measurement of the changing context as the project is realized. However, this does raise problems in that monitoring will inevitably by conducted by different assessors at different points in time, who might be more inclined to measure certain indicators or use alternate tools of analysis. How can the monitoring process be conducted to ensure that it can maximize its potential as a means to inform the mitigation of negative developmental effects?

The *methodological* and *structural* issues and questions raised above will be discussed and debated within the context of a comparative case study.

Case study

The focus study is based on an assessment of the socioeconomic impact of the Addo Elephant National Park (AENP) situated in the Eastern Cape of South Africa, which has been the subject of three socioeconomic impact assessments in the past five years (Saayman and Saayman, 2005; Connor and Zimmerman, 2008; CES, 2010). The previous

two reports were undertaken by independent consultants in 2005 (Saayman and Saayman) and 2008 (Connor and Zimmerman). The most recent study was completed in 2010 and was conducted by Coastal & Environmental Services, a consultancy firm based in Grahamstown, Eastern Cape. The researcher was a member of the project team, involved in the fieldwork, data capture, data analysis, and report write-up aspects of the IA.

Introduction to case study assessments

The Addo Elephant National Park (AENP) was proclaimed in 1931 and is owned and managed by South African National Parks (SANP), a South African parastatal organisation. In the mid 90s, a proposal to expand the AENP to the Greater Addo Elephant National Park (GAENP) took shape. The expansion was purposed to conserve the region's diverse biomes in their natural undisturbed state and where possible, to return agricultural land to the conservation of biodiversity (CES, 2003). Moreover, the long-term hope was to establish a corridor linking five of South Africa's seven biomes within a conserved area, important for facilitating the adaptation of conserved species to climate change. The ambitious expansion plans included the creation of a 120 000 ha marine protected area, of which South Africa has few, thus contributing to South Africa's commitment to the International Conventions on Biological Diversity and Combating of Desertification (CES, 2003). The conservation-premised national parks of South Africa are important in ensuring the preservation of the nation's priceless biodiversity in a manner which is both significant and sustainable. However, the need for environmental awareness is delicately interfaced with the dire socioeconomic constraints South Africa finds itself in. One of the most unequal societies on earth, South Africa is a country which exhibits stark contrast between rich and poor, with little in between. The Constitution of the Republic (1996) guarantees the rights of access to certain basic human necessities to all citizens of the Republic. These essentials to human life are inherent in the maintenance of human dignity and ensuring that the expression of an individual's humanity is not limited by lack of necessities. The importance of this public expression of the value of human life is further clarified by reference to one of the core founding values of the Constitution of the Republic of South Africa (1996):

> "The Republic of South Africa is one, sovereign, democratic state founded on the following values:
>
> Human dignity, the achievement of equality and the advancement of human rights and freedoms."

(The Constitution of the Republic of South Africa, 1996).

The need for the AENP to make a practical contribution to the ideals of the nation, and thus become, in essence, an expression of public interest, was recognized by the World Bank and the Global Environment Facility (GEF) when approached for funding by SANP in 1999 (CES, 2003). As part of the requirements for receiving developmental World Bank funding, the project managers (SANP) were required to carry out a full information consolidation project in order to properly inform the decision-making process of SANP and the World Bank (CES, 2003: 2). The form this process took was that of a Strategic Environmental Assessment, in which institutional, social and economic factors formed an integral part (CES, 2003).

One of the primary outcomes of the CES SEA (2003) was the recommendation that monitoring programmes be established with the view of ensuring a long-term informative feedback as to the Park's impact on the surrounding communities. Growth of the Park onto previously farmed areas necessitated the resettlement of low-income agricultural communities and the negative social outcomes of the expansion process were heavily criticized. However, the Park had more of an impact on the surrounding communities than merely the contentious resettlement issue, important as that was. Therefore monitoring assessments were undertaken at the behest of the World Bank to obtain an informed understanding of the net socioeconomic impact of the AENP as a whole (Saayman and Saayman, 2005; Connor and Zimmerman, 2008; CES, 2010). It is these socioeconomic impact assessments which have been selected as the case study.

Reasons for choice of AENP SEIAs as the case study

The AENP SEIAs have thus been selected as the case study for the following reasons:

- The common contextual focus of three economically minded SEIAs in a developmental environment
- Close proximity in terms of time
- Close geographical proximity to the candidate
- Candidate was first-hand involved with the 2010 assessment

The common contextual focus of three economically minded SEIAs in a developmental environment

Impact assessments are usually only undertaken when developments are proposed. They are undertaken for many different kinds of project in a diverse range of contexts. The nature of the impact assessment is an attempt to provide some very specific impact information based on the uniqueness of the project and of the broader social and economic context within which it is proposed. Thus the methods employed, the variables included and the identified impacts differ considerably from one study to the next. This makes the drawing of objective critical comparisons of the implementation of economically-minded SEIAs more difficult.

The AENP SEIAs were conducted on the same development. Moreover, the AENP exists within a delicate socioeconomic developmental context which, combined with the strong quantitative economic emphasis of the case study SEIA's, is an ideal framework for analysis of the research questions. In addition, the three case studies were conducted in close proximity to one another in terms of *when* they were carried out. The proximity in terms of time and similarity of study area allows for a useful and easy comparison when considering the nature of the utilized methods and provides a framework for consideration of how to better implementation of economic impact assessment method.

Moreover, the AENP is in close proximity to the candidate, and the candidate was involved in the latest impact assessment and thus has access to original reports, data and a firsthand experience of the context and process.

Limitations

The analysis involved in the research questions will be limited by those methods implemented in the case study. Multiplier analysis was the primary method employed and therefore answering the questions will revolve around this. Furthermore, some of the data collection tools and terms of reference from Saayman and Saayman (2005) and Connor and Zimmerman (2008) were unavailable and the researcher was involved in only one out of the three impact assessments.

Moreover, while SEIAs normally form part of a much greater EIA process, in the case of the AENP the SEIAs were conducted independently of external processes. In light of this they do not form part of a legal requirement for development and thus cannot be weighed against legal guidelines for conducting impact assessments. Rather, where specific theory has been applied, the application of that theory will be measured against what the theory itself suggests.

Structure of thesis

The thesis starts with a review of the relevant literature in Chapter Two. Highly quantitative economic impact assessment method is to be considered, informed by a discussion of the broader EIA and SIA processes. The case study analysis will be divided into four chapters, after which conclusions and recommendations will be offered. Chapter Three shall discuss the approach adopted by the case study assessments, and how that approach affected the outcomes as a whole. Chapter Four deals with the issue of data collection, focusing specifically on the questionnaires used in the case study, comparing and contrasting methods and outcomes to draw conclusions as to better methods of questionnaire formulation and administration. Chapter Five considers the data analysis used in the case study, focusing on the highly quantitative economic multiplier and its application, seeking to draw conclusions on how different methods of formulation and application of multipliers will affect outcomes. Chapter Six discusses the outcomes achieved by the case study assessments, specifically the imbalance between

benefit and cost assessment. Moreover, it will deal with the usefulness of the economically minded SEIA using multiplier methods in assessing impacts where the distributive effect is as important as the net impact. Chapter Seven will draw conclusions and make recommendations based on the body of the thesis.

The importance of policy making has seen growing recognition in the global context, specifically in situations where a balance between growth using current resources and preservation of future sustainability is required. Impact assessment is one means of aiding in this task, and yet specifically the socioeconomic impact assessment faces problems in implementation, definition, and context applicability. Through the analysis of the impact assessment process in the socioeconomic context with economic method it is hoped that the ideal of 'sustainable development' will be more achievable through better implementation of the SEIA.

Chapter Two

LITERATURE REVIEW

As Becker (1997) stated, impact assessment seeks to inform policy formation with an environmental, economic, and cultural perspective as to the realistic effects an initiative would have, in the most unbiased and objective manner possible. Part of the approach attempts to gain some understanding and attempts to take into consideration public opinion towards a certain project or initiative. To this end, impact assessment traditionally utilizes various tools of consultation and analysis in formulating its results and policy recommendations, and has come to be seen as a technical manner of ascertaining qualitative outcomes, often through quantitative means (Barrow, 1997: 6). This school of thought has been criticized by Graham Smith (1993:1), who vociferously promoted impact assessment as a necessary incorporation into the strategic process of decision-making, rather than merely a technical tool which may be taken up and put down at will. The need for a philosophical cohesiveness between the planning of a project and its filter-down effect has been reflected around the world in legislation requiring impact assessments to be implemented on development projects (Barrow, 1997: 2).

The extent to which impact assessment techniques are informed by the broader philosophical context in terms of the methodologies used and outcomes achieved is, however, debatable. Do impact assessments utilize methods which have the ability to provide defensible, rationally appealing, useful outcomes? Moreover, are impact assessments themselves suitable for their purpose of informing decision-making? The answering of these questions is beyond the scope of this thesis. However, an attempt will be made to answer them, to a degree. The thesis will attempt a critical comparative analysis of how economic impact assessment methods are applied within the case study

context, as well as an analysis of the usefulness of quantitatively grounded SEIAs with a strong focus on economic analysis to the assessment of development where distributive as well as net change is important.

The literature review attempts to contextualize the answering of the research questions. Focus will be on the more quantitative economic impact assessment methods, as informed by the broader social impact assessment (SIA) and environmental impact assessment (EIA) processes. 'Process' here refers to the series of steps followed in the completion of an impact assessment, and is something that remains generally consistent across IAs regardless of their specific point of focus. 'Methods' here refer to the specific theory implemented in an impact assessment, and will vary from assessment to assessment depending on the point of focus. It will be assumed, for the purposes of the literature review, that economic and socioeconomic impact assessments are IAs that fall under the broader umbrella term of 'SIA'. In practice much ambiguity and contention exists around how important the terminology of IAs are in determining their scope, a debate to be considered before proceeding onto the body of the literature review.

History of impact assessment

Throughout much of the 1900s, the value and place of being able to forecast accurately the effect of a policy measure grew in stature and measure. That is, policy makers began to take a more active role in intentionally seeking to understand the results of their decisions, not only on the key variable but also the broader environment in which the decision is made. As Becker (1997: 35) says, the development of the social sciences and the birth of civil rights activism in the US in the post war period led, eventually, to a legislated cognizance of the need for sustainability and predictability of a policy undertaking. In 1965 the EIA, or Environmental Impact Assessment, first came into legislative effect in the USA. The National Environmental Policy Act was a revolutionary piece of legislation that triggered a change in the way developments were implemented (Becker, 1997: 35). Formal regard had to be given to environmental developmental effects in the planning stage of an initiative. Further evolution of thought tried to account more comprehensively for the total change caused by a development, not only

ecologically speaking but also socially and economically (Becker, 1997: 35). Thus social impact assessment came into being as part of the comprehensive EIA. The use of such techniques and strategic policy making spread from the US to other countries and eventually to other bodies of legislation until by 1985, the SIA was independently internationally recognized as a necessary part of a developmental undertaking (Becker, 1997: 38). In 1987 the UN-commissioned group of experts making up the World Commission on Environment and Development (WCED) published "*Our Common Future"* which found that:

> "Many critical survival issues are related to uneven development, poverty, and population growth. They all place unprecedented pressures on the planet's lands, waters, forests, and other natural resources, not least in the developing countries. The downward spiral of poverty and environmental degradation is a waste of opportunities and of resources. In particular, it is a waste of human resources. These links between poverty, inequality, and environmental degradation formed a major theme in our analysis and recommendations. What is needed now is a new era of economic growth – growth that is forceful and at the same time socially and environmentally sustainable" (WCED 1987: 12).

The findings of the Commission came to define the meaning of the phrase 'sustainable development', which was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: 43). Present need should thus be carefully weighted against future need and the limitations this inevitably places on current consumption. The perceived need for a balance between now and later saw increasing global focus in the years after 1986, as SIA saw rapid adoption not only by governments but also other large developmental institutions such as the World Bank (Becker, 1997). The need for social impact assessment is well captured in the statement of an Inuit chief who faced social impacts not considered in the building of the Alaskan oil pipeline from Prudhoe Bay on the Arctic Sea to Valdez on Prince William Sound: "Now that we have dealt with the

problem of the permafrost and caribou and what to do with hot oil, what about changes in the customs and ways of my people?" (Dixon 1978:4, cited by Burdge and Vanclay, 1996: 62). The critical and irreversible nature of social change is what prompts the desire for such stringent social impact assessment *before* a project takes place. As Burdge and Vanclay (1996: 61) put it: "Once cultural life is affected, it is affected for good; therefore, it is important to prevent the majority of impacts before they actually happen".

The terminology debate

There are differing definitions of impact assessments and a divergence in understanding as to what an IA termed 'social' or 'economic' encompasses. The first definition of SIA is a comprehensive one. Becker (2001: 312) defined SIA as "the process of identifying the future consequences of current or proposed actions, which are related to individuals, organizations and social macro-systems". Taylor, Bryan and Goodrich (1990) considered SIA from a mainly New Zealand perspective, drawing heavily on the Conland (1985) report which defined social assessment as a process "in which intended projects and policies are examined for their possible effects on individuals, groups and communities". One of the more comprehensive definitions of SIA arose from input at conferences held by the International Association for Impact Assessment: "Social impact assessment is the process of analysing (predicting, evaluation and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment" (Vanclay, 2003: 6).The above definition of the term 'SIA' is, as Vanclay (2004: 279) said, "not limited to a narrow or restrictive understanding of the concept *social*'." Rather he viewed SIA as an "overarching framework encompassing all matters that may impinge on humans" (Vanclay, 2004: 279).

Despite the comprehensive definition of 'social' expressed above, some authors draw a definite distinction between 'social' and 'economic' IA. As Benjamin (1981: 153) put it, there are clear advantages to treating impacts in a "disaggregated manner, distinguishing between those benefits that are essentially economic and those which relate to a project's

impact on society". Purely social impact assessment is a process of public involvement either directly through means of public participation or indirectly in terms of social analysis and research (Burdge and Vanclay, 1996: 60). The aim of the public cognizance is to enable proper incorporation of possible societal causes and effects into the planning stages of project implementation (Taylor, *et al.* 1990: 77). In this way social impact assessment is a means of incorporating subjective perceptions from individuals and communities as to the effects of a proposed development (Barbour, 2007: 19). This 'pure' definition of SIA is contrasted with economic IA, which seeks to determine the extent to which a particular development or project will impact on the economy in terms of, among other factors, the creation of revenue through expenditure; either direct, indirect, or induced (Snowball, 2008: 34). Economic IA is thus more of an objective means of assessment than pure SIA, and tends to take less notice of individual societal perceptions of change (Barbour, 1997: 20). As Van Zyl (2010) put it, social impact assessment has a 'softer' approach than economic impact assessment, which focuses more on hard figures.

The question, however, arises: can social and economic factors and impacts be so easily separated from one another for separate analysis? The difference in impacts to be measured is the fundamental basis for the argument that social and economic impact assessments should be considered separately. Can this difference, though, be so easily made? Are not all impacts and causal chains inextricably linked? As Benjamin (1981: 154) admitted, "there is hardly a project which does not have a social dimension to it…" Moreover, economic outcomes are only relevant insofar as there is a society to benefit from them. As Taylor *et al.* (1990: 167) put it: "local economies are inevitably affected by and linked to rapid social change, and policy and decision makers will require information about that change." It is worthwhile noting that there tends to be an asymmetry between economic and social impacts – while economic impacts will almost always have a social component or effect, the same is not true of social impacts on economic variables. Benjamin (1981: 154) was of the opinion that the basic economic assessment of a project, focusing on a cost-benefit analysis of economic effects, viability and return, can only be effectively interpreted in a social context. What is clear is that there definitely needs to be an assessment process in place which takes into account both social and economic

factors, as they are often inter-related to the extent that an assessor cannot actually meaningfully consider one without reference to the other. This is the purpose of 'socioeconomic impact assessment'. Van Zyl (2010) acknowledged that there is bound to be a great deal of overlap between social and economic impact assessments. Economics is, after all, a social science. Moreover, there are definite practical benefits to be gained from the integration of different types of assessment, should the practical problems of expertise be addressed. Logistically speaking, costs could be cut considerably by a joint assessment of similar variables at the same time (Vanclay, 2004: 277). What, then, is the crux? Why measure economic and social factors separately?

The real difficulty in a combination of social and economic impact assessments in one assessment is a practical concern. Namely, that in practice if a 'socio-economic' impact assessment or a SIA in its broad definition is commissioned by a developing body, frequently one consulting group or consulting individual will have to bear the burden of providing a detailed analysis of both the social and economic outcomes of a proposed policy decision[1]. The fact remains that while social and economic factors are very similar and in many cases deeply connected, they are still remarkably different.

The techniques and methods of analysis required to properly consider 'social' and 'economic' impacts differ hugely and require notably different skill sets in their assessor. This can lead to shortcuts, where an assessor trained in economic method attempts to implement an essentially social assessment or vice versa. For this reason, in practice, depending on the training of the assessors and the terms of reference provided, SEIA can tend towards focus on specific variables at the expense of others. For example, SEIA may result in a narrow-minded focus on economic variables and impact assessment at the cost of SIA. Very often the scoping process and resulting outcomes are simply skewed by what is easiest to assess, as in the case of Juan, Wu and McDonald's (2006) socio-economic impact assessment of intelligent transport systems used a cost-benefit analysis

[1]Cost issues related to the carrying out of impact assessments will be of particular relevance in such a scenario.

framework and a data development analysis. While some attempt was made to include less direct costs and benefits in the assessment, there was a notable lack of social consideration. The assessment was of a primarily economic nature, using an economic frame of analysis and focusing on the variables and impacts that could be quantitatively measured.

Similarly, Mason (2008) focused almost exclusively on economic impacts arising from a possible earthquake in Jamaica, and the socio-economic part of his analysis centred around obtaining quantitative monetary amounts for possible damage to households. These studies highlight how purely 'social' impacts can be ignored in favour of 'economic' factors of consideration. Where social factors are included they are treated with a sort of perfunctory disdain, as though, being qualitative, they are not worthy of inclusion in the impact assessment process.

The outcomes of inadequate consideration of the relevant impacts can be of a legal nature. Should an impact assessment be named 'socio-economic' but really only properly address economic concerns with a 'smattering of sociology' (Van Zyl, 2010) it runs the serious risk of being successfully challenged in court. For example, anti-development shareholders may hire a social expert to discredit the supposedly socially inclusive socio-economic impact assessment. There is no harm, Van Zyl (2010) says, if social and economic aspects of development are considered in separate reports, albeit with some overlap in factors addressed. Ultimately they will both arrive on the policy maker's desk. However, they will arrive there in a manner which, on the whole, stands a better chance of being legally and thus validly defensible. Van Zyl's (2010) comments are made in the specific context of the rigorous governmental guidelines for carrying out social and economic impact assessments in place in the Western Cape of South Africa. He does make it clear that the impact assessment and what factors it considers and how are dependent on the context and purpose of the assessment. If the assessment is merely being performed, for example, to illustrate the economic impacts of corporate social responsibility spending then there is not likely to be a problem with combining social and economic assessment of the project/development/event. If, however, legal scrutiny is the

inevitable end result of the impact assessment process, more care needs to be taken with the assessment process and with the choice of assessors.

It is possible to facilitate an integrated approach and achieve some level of balance between social and economic concerns, as Batey, Madden and Scholefield (1992: 180) indicate in their socio-economic impact assessment of large-scale projects using an airport as a case study. As part of the standard economic input-output table they include household consumption and income from employment. The extended input-output table allows the determination of some of the impact of a large-scale project in a social context, whilst still paying meaningful heed to the economic impact. This is an innovative complement to standard economic theory to allow for uniquely social variables and contexts, and highlights the fact that a combined assessment of purely 'social' and 'economic' factors is possible.

The central issue here is one of terminology. Whether an assessment is called a SIA or a SEIA or an economic impact assessment really makes no difference, provided that the relevant social and/or economic impacts arising from the proposed development are taken into consideration. As Vanclay (2004: 277) said, 'perhaps it is the commitment rather than the process that is important.' This could be true. However, perhaps this 'loose terminology' (Van Zyl, 2010) actually *contributes* to the promulgation of shoddy impact assessments, as leeway is provided by the flexibility of the terminology to include or exclude irrelevant or important factors. Moreover, loose terminology could result in assessors being inadequately equipped with the correct skills to handle the actual scenario. The lack of expertise will lead to a gradual undermining of the perception of IA's as effective policy tools, but more than that, as a key philosophically integrated part of a development. Vanclay (2004: 280) is of the opinion that this has already happened. If something is not clearly defined, how can standards be met – indeed, how can standards of sound process and valid assumptions even begin to be made? On the other hand, things are seldom clearly defined in social sciences making it difficult and potentially counter-productive to impose strict standards. A figure by Vanclay (2004: 274-275) provides an indexed hit count of the number of different types of impact assessments to

be found in a Google search. The figure (Figure 3 in Appendix B) gives some indication of the problems in definition facing the impact assessment field today. A better global definition of what constitutes a specific type of impact assessment might help in providing a framework and guideline for what consultants should aim to achieve in conducting a specific IA. The seemingly simple solution is, however, clouded by the unique and ever-changing context of each assessment, with different social and economic variables to be considered.

EIA and SIA process

The view of a SIA as a process joins well with the progressive nature of development, and seeks through the ongoing anticipatory format to ensure healthy levels of communication between parties, encourage public participation, and reduce levels of asymmetric information (Barrow, 1997: 97). In short, through an effective flow of valid information between interested parties, a picture is obtained as to the costs and benefits a development will have on society. The anticipatory information will ideally influence policy decisions to ensure a sound trade-off between overall costs and benefits (Taylor *et al.* 1990: 78). In the following section, the SIA process (in the broad definition of 'social') will be evaluated, followed by a focus on highly quantitative economic methods of analysis. SIA process is very similar in nature to the broader EIA process, as an SIA conducted for legal requirements will normally form part of a greater EIA. The discussion will focus on the general process with specific reference to SIA.

Screening

As Barrow (1997: 107) stated, screening is the process whereby it is determined whether or not a full impact assessment should take place. It is essentially a brief review of the project under consideration to ascertain a pre-impact assessment point of view regarding the need or lack thereof for a full impact assessment. Barrow (1997: 107) considers screening of particular importance due to the often arbitrary manner in which the regulation of impact assessment implementation is achieved. For example, threshold values (a regulatory means of determining whether or not a SIA should take place) can exclude from assessment a project which is e.g., 999 m^2 large when the threshold value is

1000m². Barrow (1997: 107) also found that developing countries are less willing and able to implement screening techniques due to the additional costs in terms of money and time. Screening should ideally ensure that SIA's are implemented in developmental projects clearly requiring it.

Scoping

Taylor *et al.* (1990: 84) held that the preliminary stage of scoping in impact assessment seeks, essentially, to define those important aspects that need to be addressed by the assessment process as a whole. The focus-phase includes an establishment of the purpose of the SIA as well as possible means of attaining that purpose by comprehensively addressing the critical problems (Taylor *et al.,* 1990: 84). The impacts that are assessed in the SIA process are many and varied. Vanclay (2003: 7) views the SIA as a framework within which all impacts on human life can be considered, the impacts to be assessed varying depending on the specific context of the project or development. It is important in any form of impact assessment to define the extent of the study, to seek to set limits on what aspects of possible impact will be considered and which will not (Finsterbusch, Llewellyn and Wolf, 1983: 19). More than this, though, it is necessary to design an assessment process which will fully consider the *critical* impacts arising as a result of the development.

Owing to the unique nature of the social community affected by varying projects or developments, and the difficulty of including *all* possible facets of social change as a result of the development (there are simply too many), the question of *which* impacts should be considered is a controversial one (Vanclay, 2002: 185). Either a narrow focus develops on those easily quantifiable impacts covered in census data or measurable through economic analyses, or far too much assessment is undertaken on irrelevant aspects of the development impacts. Because of the tendency to exclude relevance or include irrelevance, many guidelines as to which factors should be considered in a social impact assessment have been developed (Taylor *et al.,* 1990: 90). Vanclay (2002: 188), in an analysis of these 'lists', found that they differed greatly from one another, left out important variables which should have been considered, and tended to focus only on

possible negative outcomes of a project or development and not social benefits. It is difficult to provide a general list of those social effects that should be considered within a SIA, as the context within which SIA's take place varies so much from case to case. That said, a useful technical means of assessing important impacts across different contexts (see Figure 2) was developed by Slootweg, Vanclay and Van Schooten (2001). The framework differentiates social *change* from a social *impact*. The difference between change and impact is simply that while changes may *cause* impacts, e.g., a change in population level may affect the structural stability of a local community, change itself is not an impact. The impacts that change causes will vary according to the specific social context.

The framework provides a means of evaluating possible impacts resulting from given changes in a structured and coherent manner, thus ensuring comprehensive cover of possible impact areas (Vanclay, 2002: 193). Using the framework as a scoping guide, Vanclay (2002: 193) identified a number of processes (see below) that will occur upon initiation of a new project or development. Under each of the 'processes', Vanclay (2002) listed general social changes that are likely to occur, and finally a general hypothesis of the social impacts these changes will have. The complex sounding process is actually relatively easy to implement in practice, and can provide some structure to what can be a haphazard scoping stage of the SIA process. Vanclay (2002: 193) holds that the common processes arising as a result of a development are likely to include:

- Demographic processes (changes relating to *people*)
- Economic processes (changes relating to the *economy*)
- Geographical processes (changes relating to *land use*)
- Institutional and legal processes (changes relating to *efficiency* and *effectiveness* of these bodies)
- Emancipatory and empowerment processes (changes relating to *public power* in decision making)
- Socio-cultural processes (changes affecting *culture*)

An example indicates how the scoping mechanism functions: should an event take place which attracts 50 000 people as visitors, it will set off definite demographic, economic, and perhaps other processes, as people flood into the local region increasing expenditure.

Consider the possible demographic processes as an example: the changes will include the presence of tourists in the region, possible in-migration, and perhaps seasonal residents. The latter two changes in demography might arise if tourists become enchanted with the region and purchase property as either a holiday home or a place to settle down. The social *impacts* of these social *changes* can include (Vanclay, 2002: 194-195):

- Strain on service delivery over the event period as limited infrastructure struggles to deal with the increase in demand
- Sustained strain on service delivery should in-migration occur
- Societal and/or cultural changes should the newcomers to the region bring a different culture and way of life with them
- Change in local communities due to the effects of tourism demand

Such a large tourist event could have many other far-reaching impacts, specifically on the local economy. These would be considered under a different *process*. It is seen how due consideration of the processes set in motion by a development or event will lead to possible changes in demographic and economic structures, which will inevitably result in *social impacts*. The mechanized, highly structured approach to scoping has merits in that it should ensure a more comprehensive coverage of possible social impacts.

The actual method of conducting the scoping is recommended by Taylor *et al.* (1990: 84) to be a consultative public process and by Barrow (1997: 107) as a discussion among experts. Either way, expert opinion as to what is relevant and what is not in the upcoming impact assessment is essential, in order to determine a process and method that delivers relevant outcomes to the pressing impact concerns.

The issue of the scope of the SIA can be heavily affected by the scoping process itself and who influences that process. Should the SIA be merely the fulfilment of a statutory requirement, motivated and paid for by developers, this could influence what impacts are considered and how they are voiced. Consultants have a great deal of power in their ability to influence results through choice of impacts to be considered and how to report

on the results of that impact assessment. This is, however, limited by the terms of reference provided for the assessment. (Burdge and Vanclay, 1996: 74).

As Burdge and Vanclay (1996) stated, another concern is that while SIA's may gauge social impacts of a development, there may be several conflicting social impacts. For example, in the SIA of a development in a particular area, one group in society may view it as very positive, while another may view it as very negative. Which social impact is given more weight? There may be several different public perceptions of the same project from the same community. The difference in public opinion regarding development projects reflects the inevitable subjectivity of the individuals who make up society and make the provision of a conclusive SIA outcome as either positive or negative highly problematic (Burdge and Vanclay, 1996: 75). It is an unavoidable reality that there will always be disaffected parties at the prospect of some form of development. The significance attached to social consequences of impacts on different groups of society cannot be determined by the SIA process. This will require a value judgment which assessors are not in a position to make, given their objective informative role in the process. That said, multi-attribute utility theory and multi-criteria decision analysis do provide a means to engage with the attractiveness of each outcome of a set of possible alternatives, providing a single standard of measure which could enable objective decision-making.

Thus it is important to maintain standards of integrity, objectivity, and sound procedure in carrying out the scoping phase of a SIA, to ensure an SIA which deals as comprehensively as possible with those critical issues requiring attention.

Profiling / Baseline analysis

The definition of impact assessment is the consideration and analysis of the predicted *change* in normal trends of social and economic behaviour caused by the proposed development or initiative. In order to analyse the change it is first necessary to consider the point of departure, or baseline, as it is commonly referred to. The profiling stage of impact assessment seeks to characterize the relevant social and economic indicators as

they exist without the planned development, and will oftentimes include an appraisal of the past social trends within the study context (Finsterbusch *et al.* 1983: 24). Becker (1997: 68) stressed the importance of the profiling stage yielding data which is specifically useful in the focus area of the impact assessment. Essentially, baseline profiling is the recognition of a shadow social scenario excluding the impact of the proposed development which will be used in comparison with the social scenario created by the proposed development. Practically, this is often achieved by use of data compiled from government sources e.g., census data; written social data (newspaper reports); and public participation sources of data (Taylor *et al.* 1990: 86).

Consideration of alternatives

Taylor *et al.* (1990: 87) stated that the scoping and profiling stages of the assessment should ideally provide enough data to ascertain whether or not there are alternative avenues of development for the initiative. This will require intensive interaction between the developers and the social assessment practitioners, and the process can come under pressure from time and money constraints (see page 59 for a more detailed discussion). It is, however, perhaps the primary justification an IA practitioner can offer a developer for recommending an alternative development option – if a problem-free alternative is identified and recommended – and thus of considerable importance (Barrow, 1997: 109).

Identification and measurement of impacts

According to Barrow (1997: 111), there must be useful baseline data which can provide a 'no-action' profile with which to compare possible impacts from policy measures. Lack of baseline data or a lack of valid focus in the baseline data will result in a measurement of impacts which is consequently flawed (Taylor *et al.,* 1990: 87; Barrow, 1997: 111; and Finsterbusch *et al.*, 1983: 25). The primary difficulty that the impact assessment task faces arises in the identification and measurement stage of the process, that is, only a proportion of impacts are actually measurable quantitatively or even qualitatively in real time, referred to as *direct* impacts (Barrow, 1997: 111). Should the impact assessment overcome the problems even this seemingly easy task presents in practical

implementation, there still remain other effects of an indirect nature to be measured. A large portion of the effects that an initiative has will only be felt at a later time further along the causal chain. To measure *indirect* impacts, it is first necessary to identify the nature of the causal chain. This is a process open to error, as it is very easy to misjudge the true nature of the chain, given the often complex and interlocked nature of its existence. As Barrow (1997: 111) states, factors might escape consideration or simply remain unmeasured due to the cost of their inclusion in the assessment process. Where the causal chain is comprehensively addressed, impacts might be given too much weighting. Attempts to reduce the sheer intricacy of a series of inter-related events to a simple cause and effect basis are bound to be beset by controversy. It is, however, a necessary undertaking.

Specific outcomes from this stage of the assessment process should include a determination of the "scale, intensity, duration and probability of effects" (Taylor *et al.,* 1990: 88). Barrow (1997: 110) recommends some possible practical methods of achieving these outcomes including surveys, literature reviews, specialist interviews and public participation methods.

Monitoring, mitigation and management

As Barrow (1997: 124) states, "Impact assessment often adopts a 'snapshot' approach (i.e. viewing things at a single point in time) and makes little provision for ongoing monitoring". The time and resource costs of information flow often limit the potential of impact assessment as a reporting tool simply because contexts change over time. Viewing impact assessment as merely a snapshot of a changing reality, especially given the effects that implementation of a project could have on the social context, thus takes no account of the passage of time. It is the need to consider how the project is *changing* the social, natural and economic environment, and respond accordingly, that necessitates monitoring practices.

To ensure effective management of projects and their impacts, the monitoring of a project should take place throughout the implementation and life of the initiative or

development. Ideally, it seeks to compare actual with predicted results, and report on discrepancies, either negative or positive (Taylor *et al.*, 1990: 88). Finsterbusch *et al. (*1983: 31) held that a good relationship and channel of communication between interested and affected parties and the management of the project seeks to ensure that information regarding actual impacts is acted upon, either in mitigation or support thereof. This will hopefully result in a mitigation of unforeseen negative effects on the greater context, by either a change in project implementation or adaptation of policy to reduce the negative impact. The post-prediction phase tests the validity of the projections made in the impact assessment and it is important to ensure that policy is properly formed by the relevant information regarding the effects of the development.

In reality, however, monitoring can be a "seemingly convoluted, chaotic and messy process" (Krawetz *et al.,* 1987: 15 quoted in Taylor *et al.,* 1990: 88). The major challenges facing professionals engaged in monitoring work relate to the "description and measurement of change" (Taylor *et al.,* 1990: 89) and the different weighting accorded to indicators. When monitoring measures social or economic contexts over a period of time, consistency in approach towards identification and measurement of indicators is highly important. An inconsistent approach would yield a series of results which are mismatched and incomparable, limiting the ability of decision-makers to recognize trends and respond to them. For this reason Taylor *et al.* (1990: 89) recommends that key variables and systems for the collection, storage and analysis of data are integrated in the monitoring process.

However, despite the efficacy or lack thereof in the monitoring process, what remains uncertain is whether or not policy makers will act decisively and resolutely on the reality presented by assessors (Taylor *et al.,* 1990: 89). An assessor can only recommend a change in the nature of development; management will need to physically implement the suggestion. Suggestions often go unheeded by government or oversight bodies (Barrow, 1997: 115). Essentially, sound monitoring practice combined with objective transfer of information should result, in problem scenarios, in effective mitigation implementation. It

remains to be seen to what extent this stage of the process finds real application in practice.

Taylor *et al.* (1992: 91) differentiated between monitoring and evaluation. This view is supported by Casley and Kumar (1987: 2), who hold that monitoring is seen as an ongoing process of review of the development, while evaluation is seen as "a periodic assessment of the relevance, performance, efficiency, and impact of the project in the context of its stated objectives." Typically monitoring is a specific assessment of the initiative itself while evaluation attempts to attain a broader perspective, including perhaps comparisons with other similar projects and also baseline data from other similar social regions (Taylor *et al.,* 1990: 92).

Conclusions on the EIA and SIA process

To sum up Becker (1997: 87), Finsterbusch *et al.* (1983: 17-18), Taylor *et al.* (1990: 84) and Barrow (1997: 100), the social impact assessment process seeks to:

- Screen projects to ensure social impact assessment is implemented where it is warranted;
- Scope projects to establish a framework for the assessment to take place in, in terms of time, factors to be addressed, and magnitude of the study;
- Profile project areas to ensure a sound baseline projection with which identified possible impacts can be conclusively compared;
- Undertake a consideration of possible project alternatives in terms of method of implementation and nature thereof;
- Identify and measure impacts caused by the proposed project / development / initiative;
- Monitor the progress of the development and through co-operation with project management, ensure the timeous and adequate mitigation of possible unforeseen yet very real negative project impacts; and

- Evaluate the extent to which the project is unfolding as planned.

The process is a practical attempt to anticipate the effect of social impacts before they happen. The undertaking will inevitably face difficulties in both producing credible predictions and also in achieving action as a result thereof.

Discussions around the concept of social impact assessment prevalent in literature

Firstly, difficulties in application: social science terminology and theory is frequently contradictory in nature, and the theory itself is based on critical analysis rather than social forecasting. These purely theoretical problems make application of social theory to practical impact assessment scenarios tenuous (Burdge and Vanclay, 1996: 67).

Secondly, difficulties with the process: much analysis rests on the assumed validity of a short period of concentrated data collection. This is problematic because of the often isolated nature of the data and inability to apply the consistency test to the basis of so much calculation. Burdge and Vanclay (1996: 67) hold that the SIA process of assessing impacts should be informed more by theory, with data collected as a support to already determined outcomes, rather than theory as a tenuous support of a solitary data collection regarding a proposed project. However, this does not provide for the ever-changing nature of social contexts, and the construction of uniquely suitable frameworks to measure them. Theory is general in nature, and to determine impacts with first-hand data collection as a secondary input into the process would surely lose some of the power the process could have to measure a specific social context.

Thirdly, as Burdge and Vanclay (1996: 67) stated, a lack of regulatory oversight in the SIA[2] process, as compared with the practice of skills like accounting and law, which have governing bodies which ensure that standards are consistently met by practitioners of the art. There is little to stop the production of inadequate or shoddy SIA's, as there is no

[2] This is true of all IA processes.

registration process for professionals wishing to perform SIA's(Burdge and Vanclay, 1996: 67). Moreover, there is little or no audit of the completed SIA's to ensure basic methodological and procedural standards have been met throughout the assessment. This leaves ample room for underqualified individuals to take on the assessment of social impacts with a lack of experience and qualifications, producing reports and analyses which are of a poor quality. Burdge and Vanclay (1996: 68) further stress the manner in which SIA is viewed as a single event, rather than a process fully integrated into the project's development. The 'single-event' mentality, often a product of legal requirements for IA initiation with little regard for monitoring and management practices, leads to a loss of the practical power of the SIA to suggest methods of tweaking project design and development to ensure favourable overall benefit to cost ratios, and instead casts SIA as an approval mechanism, a once-off acceptance or rejection of a project which may be taken heed of by policy makers. While legislation may exist requiring the SIA of a project, there is no requirement that meaningful heed be taken of the SIA results by policy makers. Frequently there is a lack of legislation prescribing the nature, process and method of undertaking IAs and in countries which have these problems the International Impact Assessment Principles could be particularly useful in guiding the process (Vanclay, 2003).

Finally, difficulty in obtaining general recognition for the SIA process: The SIA process is often viewed as an unnecessary additional expense in the development of a project with little regard for the very real issues it seeks to address. The lack of recognition is, Burdge and Vanclay (1996: 69) suggest, the result of a lack of understanding of the process, the theory which informs it, and the purpose it seeks to fulfil, namely, that developments should be conducted with full and proper consideration of social effects.

There are certain aspects of the SIA methodology which warrant further appraisal. These will be briefly considered here before moving onto an assessment of the EIA technique.

As Vanclay (2004) said, one of the primary aims of the SIA is to assess the impact of an initiative on the 'community'. Distribution of social costs and benefits among the

community and how the will affect the structure, size, and substance of the community are all paramount concerns. This raises the rather obvious question of definition of the 'community'. Burdge and Vanclay (1996: 71) highlight the problem with reference to social areas where two distinct social groups exist, e.g. a tourist destination. In such an area the tourist, or seasonal community, will exhibit a different construction of social utility than the permanent community. The situation will also arise in the case of a development boom – the migrant newcomers will likely exhibit a different view towards development projects and their social impacts than the well established community.

How then to assess a community impact if the definition of the community is uncertain? Should preference be given to one social group over another? That would constitute discrimination, preference to one group over another in the context of equality (Constitution of the Republic of South Africa, 1996). What is useful in determining the definition of the community impacted is to inform the focus area of the impact study with a broader social focus of e.g., the national community (Burdge and Vanclay, 1996). This is particularly useful when localized positive social impacts of e.g., the exploitation of some natural resource are contextualized in the national community as a negative social impact. The definition issue is a perspective concern. The object of the SIA is to provide adequate information to establish various perceptions so that policy makers can make properly informed decisions. The SIA process should, in theory, not become involved, biased or prejudiced towards a particular definition of 'community', but rather provide the information considered relevant in policy formation. Political involvement in the SIA process could impact negatively on the objectivity of SIA results and bring the process and profession into disrepute (Burdge and Vanclay, 1996: 72).

The second general issue with regards to SIA relates to a debate revolving around the importance attached to community participation. Burdge and Vanclay (1996: 73) argue that situations might arise where a community has a positive perception about a proposed development but in reality the overall effect of it might be negative. Alternatively, a community might reject a proposed development when there are clear overall benefits to be gained from the fulfilment of the project. The lack of real perception by a community

as to the benefits and costs that could arise from a project stem from misinformation by either advertising or propaganda, or alternatively an inability to fully grasp those effects a project could have and translate that into meaningful opinion (Gwin, 1990). Public participation and its place in SIA is thus limited by the knowledge, expertise and willingness of the public to engage. Thus while important in ascertaining community perceptions of development, the question must be asked as to how that perception differs from reality. To answer that question, objective expert analysis is irreplaceable. Despite community participation, however, the final political decision will rest with the policy maker (Burdge and Vanclay, 1996: 74).

As Burdge and Vanclay (1996: 76) have put it, perhaps the most fundamental problem with the SIA and EIA processes is not the process itself but that the process can only render a value, or set of values. It cannot make a judgment about which values are preferable. It is very difficult to make decisions bearing social outcomes, particularly in the case where there are two or more possible decisions. Each decision has its own particular set of social outcomes for different facets of the community. When making a decision, who is favoured? In the case of a decision which will favour either immigrants or established residents, whose input is taken *more* account of? The need to place one above the other is the unfortunate result of many developments and is a task with which the SIA and EIA is not equipped to deal. The making of value judgments is generally a political issue. The oftentimes extensive IA process can result in a whimsical political decision based on political and not social merit. This highlights the inherent weakness of the IA: that while there regulations may exist to ensure IA's are undertaken, nothing absolutely compels governing bodies to pay meaningful heed to the findings of the IA (Burdge and Vanclay, 1996: 76).

That said, decisions are public processes that are recorded in the public forum, along with any IA conducted as part of the decision-making process. This, combined with the fact that decision-makers are publicly accountable for their performance, provides a measure of transparency which is conducive to public accountability.

Having considered SIA process and various discussions around the concept and its implementation, the discussion turns now to economic impact assessment method.

Economic impact assessment methods

The following section will introduce the highly quantitative economic impact assessment methods, as well as discuss issues in implementation thereof. These methods should be viewed within the framework of general SIA process considered above.

Policy makers have a vested interest in ensuring that any authorised development has a positive effect on the economy. Therefore, while the economic assessment may have a variety of outcomes, a chief objective thereof is the determination of the costs and benefits – the net economic effect – of the development. The reason for this is that should costs outweigh benefits the development may not be authorised or supported (Snowball, 2008).

Owing to the difference between projects under assessment – differences in context and the different outcomes required by the developer/policymaker/shareholder – there are several different techniques that can be applied as part of an economic impact assessment. In practice assessors often make use of multiple methods within one assessment. As Van Zyl *et al.* (2005: 30) put it, "ultimately it is the economist's responsibility to choose and/or devise ways to assess impacts that are theoretically defensible'.

Figure 2.1(Van Zyl *et al.,* 2005: 30) provides a broad overview of those economic impact assessment techniques that are commonly used in assessments: depending on the issue to be assessed, either financial viability, economic viability, externality assessment, linkage effects or macro-economic risks, the techniques will vary accordingly. For instance, should the purpose of the assessment rest on determining the financial viability of a project, then the technique employed will likely be a financial cost benefit analysis. Frequently economic impact assessments will incorporate a combination of various techniques given the complex nature of the contextual background requiring assessment.

Impact assessments should ideally analyse opportunity costs (i.e. asking what the foregone benefits of the next best alternative are) if they are to conform with basic cost-benefit principles (Van Zyl *et al.,* 2005: 30).

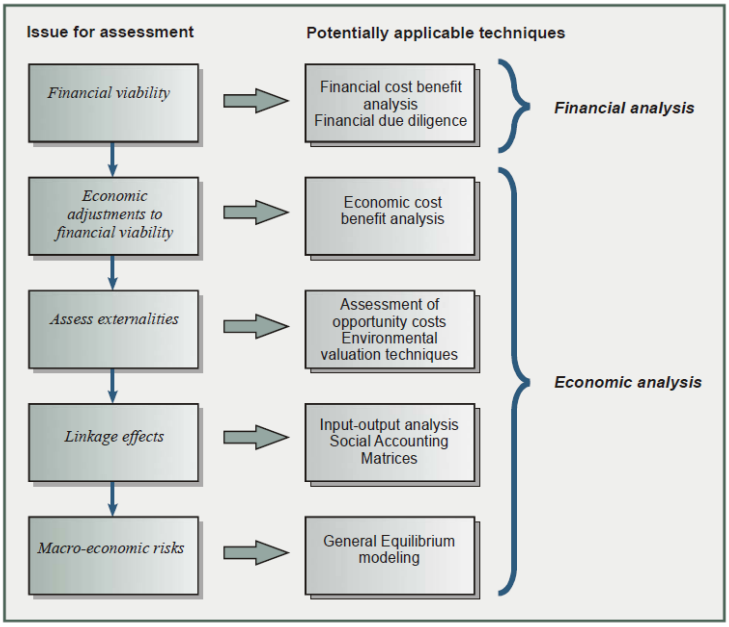

Figure 2.1: Overview of economic assessment techniques given different issues

Source: Van Zyl *et al.* (2005: 30)

Financial Viability

Financial viability is the monetary comparison of whether a project will be of greater financial benefit that it is of cost. The relatively simple mechanism is insufficient for in-depth analysis, and merely provides a broad financial overview of the expected monetary return of a project (Van Zyl *et al.*, 2005: 31). This form of analysis excludes factors and variables impacted upon by a project which do not create direct financial return or cost, and is thus a very limited form of assessment (Crompton, 1999: 15).

Cost-Benefit Analysis

Essentially, cost-benefit analysis is the quantification and summation of input and output values to and from a project (Zerbe and Bellas, 2006: 1). The general purpose of a cost-benefit analysis is to provide a usable analysis of all the costs and benefits attached to a proposed or past project or development. Cost-benefit analysis is a particularly useful method in the comparison, consideration, and choice between two mutually-exclusive development projects as it provides a workable method of determining which scenario would best benefit society as a whole (Pearce, 1971: 9). Methods for the valuation of inputs and outputs are focused on fulfilling the purpose of determining public valuation of the various inputs and outputs, more commonly referred to as the market price. Market prices are widely recognized as the most reliable method of assessing willingness to pay for a particular good or service. Where these are absent, as for intangible costs and benefits, values can be determined by a variety of alternative methods[3]. Three primary methods have evolved to determine these costs and benefits, to attach a willingness to pay to factors and aspects of the project that are difficult to measure but will nonetheless have a significant impact on the overall cost-benefit analysis (these are sometimes referred to as 'externalities' – see figure 1 in Annexure B):

The travel cost method determines the value of visitor attractions by deriving a demand curve based on travel expenses to the visitor attraction. The difference in travelling expenses for different visitors allows construction of a demand curve illustrating the relationship between quantity demanded of the visitor attraction and cost as a proxy for price (Zerbe and Bellas, 2006: 165). Hence the term 'travel cost method'. The second primary method is that of hedonic property pricing. Essentially, the method seeks to determine the market price of an unvalued benefit or cost such as that caused by the effect on the quality of life in a residential area where there is e.g., a park or a railway nearby. This is achieved by an assessment of the effect on property prices that the external factor (either the park or the railway) has, thus providing some quantified form

[3]For a more comprehensive fit layout of the cost-benefit process, see Table 1 in Appendix B.

of willingness to pay for the factor in question. The third and perhaps most controversial method of valuation is that of contingent valuation.

Hanemann (1994: 4) holds that one of the primary problems with the economic valuation of indirect or intangible effects is that their real value is often measured in an incomplete manner. Even the use of the travel cost method and hedonic pricing will only render partial anticipation of economic value derived from a specific impact. Contingent valuation is an attempt to ascertain the willingness to pay for a commodity that is not valued by a market (Hanemann, 1994: 4). Famously used in the Exxon Valdez oil spill in Prince William Sound in 1989, it has been used around the world by governments and large institutions since 1947 in the valuation of resources such as healthcare, transport, sanitation, and the environment. These are commodities which have a considerable impact on human life, health and wealth. The impacts have real value which is nonetheless so bound up in the sheer difficulty of quantification that they are often overlooked, merely mentioned instead of being meaningfully valued. Contingent valuation attempts to value these impacts through the use of 'voiced', rather than 'demonstrated' expenditure. Willingness to pay expressed by means of interview is the primary tool of analysis. Controversy arises in whether or not the voiced willingness to pay is a useful proxy for the lack of market prices (Zerbe and Bellas, 2006). However, despite allegations that the method produces highly variable results of an upwardly biased nature far too dependent on the nature of the data collection tool for their outcomes, the NOAA report (Arrow *et al.,* 2003) held that, provided certain guidelines are followed in implementation of the technique, CV can "convey useful information" (Arrow *et al.,* 2003: 43).

The contingent valuation method faces so much criticism due, perhaps, to its unconventional attempt to quantify the unquantifiable. Such a procedure will inevitably be fraught with room for possible criticism. However the very construction of a method to quantify such difficult aspects of analysis does, perhaps, deserve consideration and recognition in the absence of other viable methods of valuation.

Choice experiments (CE), while similar to CV, are different in that instead of asking a respondent to consider a 'with and without scenario' and provide a willingness to pay for the difference, they ask respondents to choose between different bundles of possible attributes in a given scenario (Adamowicz *et al.,* 1998: 65). Thus, despite the necessity of a complex design and answering process, CE is able to provide valuation for an *attribute* rather than a *scenario,* as in the case of CV. In this way a CE essentially encompasses several CV processes at once, while eliminating many of the issues relating to valuation of a good by willingness to pay in a 'vacuum', i.e. without relative comparative valuation (Carlsson and Martinsson, 2001: 179).

Linkage effects

Like its cousin the social impact assessment, economic impact assessment must consider the entire causal chain of effects sparked by the original development in order to ensure meaningful quantification of the net benefit obtained from a given development (Crompton, 1999). The complexity of the assessment merits some form of standardized method of approach to ensure comprehensive coverage of the causal chain. Therefore economic impacts are commonly broken down into direct impacts, indirect impacts, and induced effects.

Direct impacts include those effects on the economy that arise as a direct result of the development project itself (Crompton, 1999: 23). Cost benefit analysis is a type of method which measures only the direct impacts on an economy. All expenditure by the project and employment created by the project are included in the direct impact category (Taylor *et al.* 1990: 169). Snowball (2008: 48) defined direct economic impact as the first round spending brought about by the initiative, in her analysis of the EIA technique as a means to value culture. Net direct expenditure should focus exclusively on expenditure arising as a result of the development and should be carefully differentiated from expenditure which would have occurred anyway regardless of development.

Crompton (1999: 23) holds that indirect impacts result from the effect that the first-round direct expenditure has on the economy. The indirect effect is a supply side effect

and makes up the indirect impact of a development project – the increased production of commodities to meet a rise in demand. The filter-down effect causes, in its turn, various further supply side effects as demand for inputs to the supply of the direct demand increase (Taylor *et al.* 1990: 169). Total economic impact includes these successive rounds of spending in its calculation (Snowball, 2008: 66).

Induced impacts include those expenditure increases in economic activity caused as a result of increased income by agents associated with the development project, either directly or indirectly (Taylor *et al.* 1990: 169; Crompton, 1999: 23).

The economic impact assessment method, to have real credibility, must be informed by possible economic change throughout the economic point of focus (Crompton, 1999). Simply put, the whole length of the causal chain, direct, indirect and induced, is relevant in the context of the definition of 'economy' that is applied by the assessors. For this reason various methods of economic impact assessment have evolved in order to address the full length of the causal chain in quantification processes.

Multiplier

One commonly used method of determining the whole breadth of economic impacts is that of the multiplier. Crompton (1999: 20) conceptualised it as assuming that all industries in an economic region are interdependent to the extent that if demand for an output in one changes, it will have 'ripple' effects on the rest of the local economy. For example, should demand for leather shoes increase, the leather shoe factory will consequently increase its demand for leather. The increase in the demand for leather will have knock-on effects on the cattle industry, feed industry, and, eventually, the rest of the economy as expenditure on the primary good raises incomes throughout the causal chain. Rising incomes means rising employee expenditure on a host of commodities, setting in motion further economic effects. All of this was set in motion by the purchase of the leather shoes. When considering the sheer complexity of the economic causal chain, the usefulness of methods seeking to quantify the full extent thereof is evident. Multipliers find their importance in determination of the extent of the original impact as compared

to the extent of the flow-on impacts (Crompton, 1999: 20). Economic multipliers find their usefulness and level of applicability in their inherently attractive method of reducing the complexity of the causal chain to a single number, which, if multiplied by the direct impact, will ensure the quantification of total economic impact. Snowball (2008: 66) holds that it is precisely this ease of use which causes so many problems with the method in practice. The primary fact relating to a regional economy is its sheer complexity and the uniqueness of linkages between labour markets, businesses, income and expenditure are a given. These different economic linkages and contexts which economic systems find themselves endowed with ensure the absolute necessity of ensuring multiplier figures are not haphazardly applied, but are endemic to the local or regional economy (Taylor *et al.,* 1990: 172). Multipliers, however, can be extremely time-consuming and costly to derive for a specific regional context. Because so many tempting multipliers exist, tempting in terms of their derivation in similar economic circumstances to the present impact assessment, it is necessary to take great care in their application and interpretation, so as to ensure that the multipliers used find a valid application in reality (Taylor *et al.,* 1990: 172).

As Snowball (2008) indicates, because impact studies are often undertaken on clearly defined local economies, a percentage of direct expenditure will not be passed on in terms of secondary spending back into the local economy, e.g. visitor spending. First round expenditure, or direct expenditure, will be on local tourism businesses. However, indirect expenditure, expenditure by these businesses as a result of the direct expenditure, is not necessarily on local goods. Local businesses may source their supplies from national and not local companies. Moreover national taxes paid by local business will also result in a proportion of the direct expenditure 'leaking' from the study area (Crompton, 1999: 22)[4]. Expenditure made throughout the causal chain which does not remain within the study area is known as 'leakage' and results in diminishment of economic impact within the local economy. For this reason, multipliers tend to have a positive relationship

[4]See Figure in Appendix B for an illustrative example.

with the population size in the study region and also with the size of the study area (Crompton, 1999:22). Larger populations and study regions mean less likelihood of leakage of indirect expenditures and employment creation, leading to a greater economic impact in the region under study and, consequently, larger multipliers (Baaijens and Nijkamp, 2000).

Whether calculating a unique multiplier or borrowing from another context, a reasonably reliable means of testing a multiplier for reality once calculated is to compare it with other multiplier figures derived in similar assessments (Baaijens and Nijkamp, 2000). This ensures some form of objective control influence over the subjectively formulated multiplier. Frequently, though, the economic multipliers used in impact assessments fail to apply specifically to the causal production chain indigenous to a specific region. The inapplicability leads, inevitably, to incorrect estimation of the total economic impact of a project. A useful comparative tool in determining the validity of a multiplier figure for a specific region and context is the 'rough-set analysis model' developed by Baaijens and Nijkamp (2000: 843) in their constructive analysis of eleven economic impact studies undertaken in different contexts. Given a number of input variables as to the baseline projection of a study area, it is possible to obtain a 'ballpark' figure that an economic multiplier should fit into.

Types of multipliers

There are four primary impact measures that multipliers seek to evaluate:

- Sales or output
- Personal income
- Value added
- Employment

Firstly, sales or output multipliers. Output multipliers calculate the likely increase in output throughout the chain of production, given a one unit increase in visitor expenditure. They thus simply relate increased direct expenditure to the resultant increase

in the turnover of local business. The increased output might be useful in determining the effect of one industry on another, but provides no real information as to the expected impact on local incomes that an event or project might have (Crompton, 1999: 24).

Secondly, personal income multipliers. Crompton (1999: 24) held that the income measure of economic impact seeks to determine the net effect on personal incomes throughout the study area as a result of direct, indirect and induced expenditure. Thus, given a one unit increase in expenditure, the income multiplier can determine how much of that expenditure is retained by the local community as income. This measure will include employee compensation and proprietary income (Crompton, 1999: 24).

Thirdly, value added multipliers. These are similar to personal income multipliers but include other forms of indirect income including e.g., indirect business taxes (Crompton, 1999: 24).

There are various difficulties in interpretation of multipliers that arise as a result of the differences between sales and income measures of economic impact. Crompton (1999: 24) stated that because sales multipliers effectively only realize the extent of the linkage between the interdependent industries of the local economy, they will differ from industry to industry. A one unit increase in expenditure on agriculture will have significantly less impact on e.g., the fashion industry, than a one unit increase in expenditure on formal shoes will. The difference is to the trained economist more obvious than the perhaps less knowledgeable decision-maker and thus can create uncertainty as to the actual extent of the project's economic impact (Crompton, 1999: 25). The use of sales multipliers could create a false impression as to the actual economic impacts of visitor spending due to lack of clear differentiation between sales and income measures (Crompton, 1999: 25).

Despite the danger of causing false impressions, consultants often use sales multipliers rather than income multipliers in their analysis, and thus obtain figures which despite being of little real practical value, are nonetheless utilized by policy makers in their

analysis of the net economic impact. The important thing, as Crompton (2006: 74) said, is to be informed as to the income effect of an event on the local economy, as this is the primary determinant of meaningful economic impact with real social consequences (Crompton, 2006: 74).The use of sales rather than income multipliers occurs because policy makers frequently do not have the necessary expertise to become heavily involved in analysing the process that consultants used to arrive at their 'magic figure' and take it for granted that what is provided to them is valid and usable.

The final type of multiplier is that of employment, which seeks to measure the direct, indirect and induced effect on net employment within the study area that a one unit increase in expenditure has (Crompton, 1999: 27). Crompton (1999: 28) found three primary concerns with the use and interpretation of employment multipliers. The first of these relates to how the employment measure of economic impact makes no differentiation between full and part time positions of employment created. Thus should no clear mention of this fact be made in the reporting stage of the economic impact process, decision-makers could quite easily come to incorrect assumptions regarding the tenure of the employment positions created (Crompton, 1999: 28). The second relates to the increase in direct, indirect and induced expenditure and how while this may increase the amount of *work* available in the local economy, this will not necessarily increase the amount of *employment* opportunities offered. Employees may be under-utilized and the resulting increase in work of an increase in expenditure may simply render them fully utilized. The third issue arising as a result of the employment multiplier is the very real possibility that employment opportunities may be filled by residents from outside the impact area (Crompton, 1999: 28). This will negate the positive impact on employment the increase in expenditure might have had on the impact area.

Input-Output

The input-output (I-O) model was developed by Wassily Leontief in the early 20th century, a work for which he earned the Nobel Peace Prize in 1973 (Lee and Taylor, 2005: 598). The I-O model consists primarily of an I-O table, depicting the relationship

between primary input, intermediate input, and the demand for these inputs by intermediate and final outputs.

Table 2.1: Schematic representation of an input-output table

Outputs / **Inputs**		**Intermediate Demand/ Outputs**	**Final Demand/ Outputs**					**Total Gross Outputs**
		1 . . . j . . . n	C	G	I	S	E	
Inter-mediate Inputs	1	x_{11} . x_{1j}. x_{1n}	C_1	G_1	I_1	S_1	E_1	X_1
	.	.						
	.	.						
	.	.						
	I		C_I	G_I			E_I	X_I
	.	.						
	n	x_{n1} x_{nj} x_{nn}	C_n	G_n	I_n	S_n	E_n	X_n
Primary Inputs	W	W_1 W_j W_n						W
	T	T_1 T_j T_n						T
	P	P_1 P_j P_n	V_C	V_G			V_E	P
	M	M_1 M_j M_n						M
Total gross Inputs		X_1 X_j X_n	C	G	I	S	E	Z

QUADRANT 1 QUADRANT 2 QUADRANT 3 QUADRANT 4

Source: (Conningarth, 2008b: 6)

Quadrant 1 displays the flow of commodities between various processing sectors for the purposes of the production (Conningarth, 2008b: 6). The various processing sectors are represented in each row of the table, and each row reflects the amount of output that particular processing sector sold to intermediate and final output demand sectors. In a

similar fashion, each column will represent the inputs purchased from primary and intermediate output sectors. Input requirements of industries from all other industries (presented cross-tabularly in the input-output table) allow the researcher, through an increase by one of the demand of good A produced by industry A, to determine the effect it has on firms supplying inputs for the production of good A. Thus the sorted and classified expenditure data seeks to render the data in an illustrative mechanism of interdependent economic transactions (Lee and Taylor, 2005: 598). Moreover the input-output model functions as an economic model, or an explanation of the relationships between economic variables in a formulaic form (equations) (Conningarth, 2008a: 10). Constant returns to scale are assumed – i.e. the same levels of technology are employed by all firms, ensuring constant unit costs no matter the level of production. Marginal unit cost and average unit cost being equal allow the prediction of future trends with past data. Quadrant 2 illustrates the final demand for locally produced commodities in terms of a sectoral base, classified according to that sector which mainly consumes it. Quadrant 3 considers the primary inputs such as labour remuneration and all other intermediate inputs. Quadrant 4 reflects inputs by final consumers from primary sources.

Technical coefficients, or the quantity of e.g., primary inputs required by a processing sector from another sector to produce one rand's worth of output, are ordered in a technical coefficient matrix (Saayman and Saayman, 2005: 24). They are calculated by dividing all the figures in all the columns of the table by the gross inputs/outputs of the different sectors (Conningarth: 10). The technical coefficient matrix as used by Lee and Taylor(2005: 598)is used in a series of linear equations to derive the Leontief inverse matrix:

$$X = (I - A)^{-1}(Y - M)$$

The Leontief inverse matrix reflects the entire length of the economic causal chain, indicating all production interdependencies required in order to increase supply by one rand, given a one rand demand increase (Conningarth, 2008c: 18).

A varying number of processing sectors are included, depending on the extent of the study. In Lee and Taylor's (2005: 598) economic impact assessment of the 2002 FIFA World Cup, a 29x29 sector transaction matrix was used, while Batey *et al.* (1993: 183) used a 34x34 sector transaction matrix. Saayman and Saayman (2005: 24) in constructing a specialized input output table utilized an 8x8 sector transaction matrix, which they termed a 'partial' I-O model for their specific study region.

The determination of I-O tables' technical coefficients can be achieved through manipulation of data collected as part of an economic impact assessment (Saayman and Saayman, 2005). Alternatively, where they exist, already existing I-O tables issued by reputable sources for the specific study area can be used, such as in Lee and Taylor's (2005: 598) assessment, where the Bank of Korea's national transaction tables were aggregated and adapted for use in their national study. It is important that the I-O tables are properly formulated with sufficient data or, failing that, chosen carefully to ensure valid application to the impact study area.

The final step in the I-O method is to utilize the technical coefficients derived from the I-O table as multipliers with the collected data to calculate direct, indirect, and induced impacts by the expenditure in various processing sectors. Another term for these 'technical coefficients' is 'multiplier coefficients'.

Multiplier coefficients must be carefully distinguished from a 'multiplier measure', the formula for which (Crompton, 1999: 25) is:

$$\frac{Direct + Indirect + Induced\ effects}{Injected\ Visitor\ Expenditures}$$

The formula will render a number such as 0.6, which translates into a 60c multiplier effect for every rand of injected visitor expenditure. A multiplier coefficient, on the other hand, is derived from the following formula (Crompton, 1999: 26):

$$\frac{Direct + Indirect + Induced\ effects}{Direct\ effects}$$

The equation renders a figure such as 1.6, which effectively means that every rand of expenditure will be multiplied by 1.6 to render the effectual economic impact along the whole length of the causal chain. Crompton (1999: 27) holds that there is general consensus in the literature that multiplier coefficients are favoured over multiplier measures due to the often misleading effects the latter can have on policy formation.

Social Accounting Matrices

A Social Accounting Matrix (SAM) is, as Sandoulet and Janvry (1995: 273) put it, an economic database providing detailed information about the extent of the interdependence between different sectors of the economy. This is achieved by a comprehensive central record of all resource flows between all sectors of the economy within a certain time period e.g., one year (Sandoulet and Janvry, 1995: 273). The development of the SAM took place in the 1950's and 60's where separate production accounts were transformed by use of the input-output method into a system of national accounts (SNA). The SAM was an extension of the SNA to a place where not only the purely economic sectors and flows of resources could be considered, but also the *distribution* of those resources among different household groups, or categories (Conningarth, 2008a: 12). The additional consideration of equity in the midst of economic efficiency added a social dimension to analysing the effects of an economic decision (Van Zyl *et al.*, 2005: 32).

Thus Conningarth (2008a:12) sums up the purpose of the SAM in its potential to clearly define sectors and provide a means of establishing not only the level of resource flows but also the distributive effect thereof. Its beauty lies in its ability to open up the complex economic structures of interdependencies and linkages to allow ordered analysis of ripple effects caused by an exogenous impact. The nature and size of the social and economic repercussions can then be utilized in determining appropriate policy measures given a certain decision that needs to be made regarding development. Thus the SAM is a

descriptive tool, a means of holding with forceps what is essentially the whole economy for a given period in time under the microscope of socioeconomic outcomes. There is, indeed, no economic model in existence the data requirements of which cannot be illustrated in a SAM (Conningarth, 2008a: 12). Thus the SAM finds two primary applicatory uses as an economic method:

Firstly, as a descriptive tool of economic structures. Due to its integration of national and regional accounts with accepted socioeconomic data it paints a lucid picture of both economic realities in terms of structure and social realities in terms of distribution (Conningarth, 2008c: 13).

Secondly, it can be used as a policy-planning measure due in large part to its underlying statistical and mathematical foundation. Conningarth (2008: 13) indicates its use in three primary ways: as a means to conduct economic forecasting; economic impact assessment in the case of large projects affecting the national economic paradigm; self-sufficiency analysis; and to calculate the regional economic effects of increasing a national price, e.g., VAT. The economic assessment facet of the SAM application is commonly achieved by means of economic multipliers, where the effect of an exogenous increase in demand for one sector is analyzed in terms of its effect on the economy as a whole (Sandoulet and Janvry, 1995: 273). The derivation of these 'multipliers' is in the form of technical coefficients, "defined as the quantity of intermediate inputs which a particular sector requires from another sector in order to supply a Rand unit of output" (Conningarth, 2008a: 27). They are derived in exactly the same manner as for an input-output model, by dividing all entries in each column of the transaction matrix by the gross inputs/outputs of the different sectors summed (Conningarth, 2008c: 27).

The two core principles underlying the SAM are those of circular flows and double-entry bookkeeping. 'Circular flows' describe the flow of commodities from producers to the consumers and the concurrent flow of factor inputs from the consumers to the producers. At the same time, in the opposite direction, there is a flow of funds paid by

the consumer for the final good produced and by the producer for the factor input supplied. (Conningarth, 2008a: 14).

Double-entry bookkeeping refers to the primary accounts that make up the core of a SAM, in that for every income there should be a corresponding expenditure (Sandoulet and Janvry, 1995: 273). Similar to the I-O table, the SAM lists expenditures by sectors in columns and receipts thereof in rows (Thurlow, 2008: 3). Due to the balanced nature of the accounts, the row and column totals are equal (Sandoulet and Janvry, 1995: 274). The monetary value of economic transactions is captured in six major types of accounts:

- Commodity accounts: capturing the value of traded commodities
- Activity accounts: capturing the value of produced commodities
- Factor accounts: capturing the value of factor payments
- Institutional accounts: capturing the value of institutional transactions
- Capital accounts: capturing the savings and investment rates
- Rest of the world accounts: capturing the value of imports and exports

(Sandoulet and Janvry, 1995: 274)

Depending on the nature of the study, each category will contain a varying number of accounts. The SAM can be disaggregated and adapted to 'fit' specific economic modelling requirements. An example of this is the study conducted by Juana and Mabugu (2005: 346) seeking to assess whether or not small-holder agricultural reform in Zimbabwe is an economically sound course of action. They adapted a 1991 SAM developed by Thomas and Bautista (1999) to their unique study context, reducing 36 activities and 30 commodities accounts to 15 agricultural commodities accounts and 24 activities accounts in the 2005 study (Juana and Mabugu, 2005: 346). The disaggregation process was completed with the aim of providing an economic method applicable to the unique study context in question and provides a good illustration of the adaptability of the SAM to various contexts. Thus while certain basic standards of consistent accounting practice must be met there is a great deal of scope for different SAMs for different situations,

although their use is generally limited to the national context. This is due to the very comprehensive approach the SAM takes to economic modelling, meaning highly localized economic impacts would hardly register, if at all, on the national SAM (Sandoulet and Janvry, 1995: 276).

One of the chief requirements in construction of particularly a disaggregated SAM is that of a large amount of required data. The disaggregation process should ideally start with the construction of a national SAM based on the SNA (Sandoulet and Janvry, 1995: 280). Three primary data sets are then required in order to continue the disaggregation process. Firstly, activity and commodity balances can be derived from input-output tables. Secondly, a disaggregation of value added. The income information regarding labour categories and profits can be derived from employment surveys or more general census data – as calculated in Thurlow's (2008: 20) account of SAM construction in the South African context. Thirdly, and most problematically, is the attempt to calculate the private institutional balance of accounts (Sandoulet and Janvry, 1995: 280). Determination of household expenditure and receipts requires two primary aspects of analysis. Firstly, of income, which can be determined through the survey method, either of families or household heads (Thurlow, 2008: 24). Secondly, levels of expenditure on consumption need to be monitored and recorded, achieved through recourse to tax databases or by means of personal consumption surveys. This is, in the words of Sandoulet and Janvry (1995: 280), a 'very demanding' process, not only in terms of actual data requirements but also in terms of manipulation and reconciliation of various data sources into one usable format.

One of the primary limitations of the multiplier, I-O and SAM methods is that the projections made for the impacts of a project are based on average rather than marginal relationships within the economy. This raises issues around the applicability of the results to specific case studies, and thus any results achieved by these methods should be viewed with circumspection as they represent an average appraisal applied to a unique context.

To sum up, the economic impact assessment method must deal with two primary theoretical concerns. Firstly, the method should properly value the entire length of the causal chain, seeking to take into account all possible economic effects an impact could have. Secondly, the valuation process should take place in a clearly defined 'economy', to ensure results are applicable to a specific economic context and impacts are not haphazardly assessed. Economic multipliers are commonly used in the valuation process, often informed by the input-output technique. The rigorousness of the method is dependent upon the validity of the application of the multiplier to the study region, and what economic factors, processes and areas are included in the study and which are left out.

One primary aspect of the economic impact assessment that has not been addressed, but which forms, as it were, the crux of the entire process, is that of data collection, analysis, and application. Data collection is the foundation of most deductions drawn and is thus an extremely important facet of the overall review (Snowball, 2008).

Data

The following section will raise various pertinent issues relating to the use of surveys in research method, using Lee and Taylor's (2005) FIFA 2002 World Cup economic impact assessment as an example. The first aspect relating to the survey method of data collection is that of questionnaire formulation. A primary consideration is that of length. Experience has shown that the longer the questionnaire takes to answer, the higher will be the rate of non-response (Crompton, 1999: 35). The questionnaire will preferably be formulated after an adequate scoping and profiling exercise has taken place to ensure that questions asked are relevant and guarantee the collection of useful economic data. Therefore a survey questionnaire should be as short as is possible whilst still maintaining the ability to collect the needful economic data for the economic impact assessment (Crompton, 1999: 35). The questionnaire is then administered to a sample of the population in question.

As Crompton (1999) says, the question as to *how* the questionnaires should be administered is one requiring a weighing up of various advantages and disadvantages and will, eventually, depend on the nature of the study itself. The first primary method is that of off-site completion, the usual method being a questionnaire sent to the respondent in the post inclusive of a stamped return envelope. The advantage of the method is that it ensures the thoughtful completion of the questionnaire in a time of the respondent's choosing (Crompton, 1999: 40). The disadvantage of the method is that it makes for a high non-response rate as there is no pressure of any kind to complete the questionnaire, and hence it is quite likely to be ignored or rapidly forgotten by the respondent (Crompton, 1999: 40). The second primary method of is that of on-site completion, either through distribution of the questionnaire to the relevant respondents in ticket sales or welcome packs, or by means of an interviewer armed with a clipboard. When distributing questionnaires as part of ticket sales or welcome packs there tended to be a very high non-response rate due to the lack of incentive to fill out the survey and return it (Crompton, 1999: 41). Counter to this, however, should incentive be provided, there is evidence that it may substantially increase the response rate of respondents, e.g., if a name is entered into a raffle draw as that person returns the completed questionnaire. The interview armed with the clipboard will come up against two main disadvantages in terms of approach. The first is that when confronted on-site there is no guarantee that the respondent is going to be in the remotely contemplative frame of mind necessary for proper responses to survey questions (Crompton, 1999: 41). The second is that if confronted part-way through a trip or event the respondent will probably have very little concrete information regarding exact expenditure amounts and figures given will have to be estimated or rapidly calculated in the busy hustle and bustle of a major tourist attraction. This may lead to poor response quality (Crompton, 1999: 41).

Lee and Taylor (2005: 597) made use of two on-site visitor surveys to obtain expenditure data for their economic impact assessment of the 2002 FIFA Soccer World Cup. The first survey was administered upon entry to the country, with the object of classifying foreign visitors as either World Cup visitors or others. The second survey was administered upon visitors leaving the country, in departure gates of major airports. It attempted to obtain

expenditure data from visitors as to the total amount they spent on the World Cup trip within the host countries. The places chosen for their on-site completion were five major airports and two major seaports. This form of on-site completion allowed for visitors to make accurate calculations as to their expenditure in the country as a result of the World Cup, as this aspect of the survey was conducted post-event.

Out-of-town visitor spending

An important factor to note, according to Snowball (2008), is that the economic impact assessment result rests on an accurate estimation of total visitor numbers, as it will be impossible to administer the survey to all those visitors to the event. Assessors must be careful to differentiate between that expenditure which only occurs as a result of the event and that expenditure which would occur anyway regardless of the event (Burgan and Mules, 1992: 709). The careful definition of the baseline profile is necessary in line with the purpose of the economic impact assessment technique. Differentiating between the two classes of expenditure is a difficult task when the baseline profile is made up of visitor numbers, and it fast becomes unclear which visitors are there for the event, and which are there for other attractions (Tyrrell and Johnston, 2001).

One aspect of expenditure which would normally occur regardless of the event/project attracting visitors is local visitor spending. Due to the carefully defined nature of the impact study area, those visitors to the attraction which originate within the study area must be excluded from multiplier analysis seeking to determine local economic impact. The reason for the exclusion is simple: the local visitors would most probably have spent the money they did at the local attraction in another sector of the local economy had the attraction not been in existence (Crompton, 1999: 18). For example, should a specific amusement park attract Bill and Sally from next door, resulting in an expenditure of money at the attraction, Bill and Sally's expenditure cannot be included in the final multiplier analysis. This is because should the next-door attraction not have existed, Bill and Sally would most probably have spent that money elsewhere locally, perhaps on another local amusement park. While this may be a rather strict assumption in practice, it prevents inflated estimates. Therefore, as Crompton (1999: 18) says, "the accepted

convention by economists is to disregard all expenditures by local residents and to recognize that the resultant impact figure may be somewhat conservative."

There are, moreover, caveats to be found in the inclusion even of out-of-town or foreign visitor spending. Two primary categories of visitors' expenditure cannot be attributed to the attraction itself. The first category is known as 'time-switchers' and refers to the presence of these visitors in the region for the event primarily because they altered their travel *times* to be able to attend the attraction (Snowball, 2008). They were planning on visiting the area anyway, and the attraction merely influenced the choice of *what* time they chose to visit, and consequently spend. The second category is referred to as 'casuals'. This refers to out-of-town or foreign visitors who were in the area for other reasons than the attraction but decided to visit it while they were present in the region (Crompton, 1999: 19). Thus the attraction could not be said to have directly brought expenditure into the region – it was coming anyway regardless of the attraction's existence.

Lee and Taylor (2005: 598) attempted to overcome these challenges to the survey method of data collection of direct expenditure through firstly classifying what proportion of foreign visitors entering the country were there specifically for the 2002 Fifa World Cup. This was used as a percentage of the total foreign visitor numbers over the World Cup period to the host countries to estimate total visitor numbers. Moreover local visitor expenditure was excluded from the analysis.

Sampling

The issue of how many people need to be sampled before a number of respondents has been attained representative of the total number of visitors is one depending on a reasonable margin of error. A general framework was derived by Crompton (1999: 43) (see Table), which provides required sample sizes given a total number of foreign visitors for differing levels of error. Lee and Taylor (2005) record a total foreign visitor influx of 403 466. Their sample size was4 886 completed questionnaires upon entry into the country for the World Cup and 1602 completed questionnaires upon exit of the country. When comparing this with Crompton's (1999: 43) table of error, there was a 1.5% error

rate with a sample of 5000 out of a total foreign visitor number of 500 000. Thus Lee and Taylor's (2005) sample number was of a sufficient size given the total visitor numbers. To calculate the nature of many having considered the nature of few is standard practice in survey assessment processes, provided there is reasonable precaution to ensure a low rate of error.

Elimination of bias

The difficulty in obtaining a truly representative sample is one which has excited many possible means of ensuring that bias remains absent from the sampling process. The first method revolves around random sampling, also known as 'probability sampling'. The random element inherent in these methods eliminates possible bias and probability sampling is thus the preferred method to obtain a sample (Crompton, 1999: 43). There are four primary types of probability sampling. Firstly, the random sample. This ensures that visitors have an equal opportunity of being chosen by means of a random numerical process. In practice this can be very difficult to implement. Secondly, the stratified sample. Stratification of type of respondent or time or entrance to the event used will ensure that if respondents are chosen from each strata, a relatively random sample will be obtained (Crompton, 1999: 44). Lee and Taylor (2005) used the method in their surveys of the 2002 FIFA World Cup visitors, spreading the sample taken over 5 major airports and 2 major ports. Thirdly, systematic sampling. This procedure really only functions properly when there are carefully controlled access points to the attraction. It entails the sampling of respondents based on a simple system such as every 6th entrant to the attraction. The final method of probability sampling is that of cluster sampling. Similar to systematic sampling, some groups or clusters of people are randomly selected and respondents are then drawn from each group in that selection (Crompton, 1999: 45).

The second primary category of sampling method is that of non-probability sampling. While probability sampling is preferred due to its inherently random nature (Crompton, 1999: 46), non-probability sampling is often necessary in events or attractions where there is no carefully controlled entrance process and respondents must simply be chosen from among crowds of people at an attraction. This is known as 'convenience sampling', so

named because the interviewer will simply choose people based on the accessibility of the respondents. To mitigate the possible bias this may introduce into the process, interviewers should be properly trained before conducting surveys (Crompton, 1999: 46).

There are various other factors that can impact on the overall validity of the data collection and analysis process – these are considered below. Snowball (2008: 50) highlighted the need to have a balance between self-completed questionnaires and personally administered questionnaires to avoid both interviewer bias and literacy bias. Interviewer bias refers to any factors influencing the type of people the interviewer might interview, anything at all on the part of the interviewer that results in a biased sample of people interviewed. Literacy bias refers to the phenomenon whereby people are more likely to fill out a self-completion questionnaire if they can read and write, and if the questionnaire is in their home language. This will inevitably result in an unrepresentative sample. There are two further commonly experienced types of bias that can creep into the data collection process, identified by Loomis (2007). The first of these is 'avidity bias', whereby people who visit an area being sampled on a regular basis are more likely to be sampled than occasional visitors. The second is 'length of stay' bias, whereby people who stay in a sample area over a period of time are more likely to be sampled than those who just visit for the day. There is some debate about whether it is better to include group expenditure or individual expenditure (Snowball, 2008: 53). Either way it must be clearly defined which is being used, to avoid ambiguous data.

Two further issues arising in the FIFA 2002 World Cup economic impact assessment are considered briefly below. Lee and Taylor (2005) attempted to determine what proportion of total visitor numbers were there for the express purpose of attending the World Cup, and thus exclude possible economic impacts not arising from the event itself. They broadly categorized the visitors into two categories, those there for the World Cup and those not. However, if one considers the fact that their figure for 'total World Cup visitor numbers' was compiled not only of those tourists travelling for the primary purpose of attending the World Cup but also 'the indirect World Cup tourist who travelled for World Cup related purposes (e.g., World Cup family and their companions) and for enjoying

World Cup festivities' (Lee and Taylor, 2005: 597), then one could begin to question the validity of the assumptions underlying the total visitor numbers to the 2002 World Cup. The inclusion of an unknown number of people into a category to which they do not really belong is passed off by this ambiguous and confusing statement. Thus the small sample size perception is compounded by an ambiguous exclusion process of those visitors not attending the World Cup. The final visitor number for the event was estimated at 232 800.

What is of further interest regarding Lee and Taylor's (2005) study is that it is not explained how the expenditure data, collected at a later time to the tourist classification for the baseline projection, was divided into expenditure by World Cup tourists and expenditure by ordinary tourists (Lee and Taylor, 2005: 599). Should the expenditure data that was collected (n: 1602) be from tourists generally, then no meaningful deductions can be drawn from the general expenditure data as to the specific economic impacts of the World Cup. There is nothing in the study to indicate which it could be, indicating either an unintentional omission of methodological explanation, or a failure of the process.

The Lee and Taylor (2005) case and consideration of data collection method and criticism as presented in literature serves to highlight the point that while the data analysis process may be flawless, the validity of the data collection method is critical to the overall soundness of the economic impact assessment.

General issues in the economic IA method

As with the SIA process, the economic IA methods face many problems in practical implementation which can seriously affect the overall perception and indeed validity of the process itself.

Definition of economy

One of the primary issues to be addressed when considering the economic impact assessment technique is the extent of the 'economy', upon which the development is

impacting. The definition of the economic study area will determine what factors and impacts are included in the study and which are excluded. For instance, there is a considerable difference between assessing an impact on the national level as opposed to the regional level.

Taylor *et al.* (1990: 170) held that the supply side nature of the indirect economic impact have important implications for the extent of the project's net economic impact. Should the project obtain more of its inputs regionally than nationally, the knock-on effects of the direct expenditure will be felt regionally. In the same way, national inputs will have a national indirect economic impact, and the region will not benefit as much from the development as it could Snowball (2008: 66) referred to these external regional inputs as 'leakages' due to expenditure effects that are in essence leaking from the regional economy. Economic IA studies can fail to take this into account when calculating net expenditure and include external benefits and impacts in a local economic impact assessment, a flawed approach which can produce invalid, unfounded, inflated results (Crompton, 2006: 75). For instance, if visitors in area A pay R50 for an item at an event, and that item is not manufactured locally but rather in area B, then that R50 will 'leak' from the area, minus the local retail mark-up (let us assume this is R15). Because of this, only the R15 remaining in the local economy should be assessed as part of net expenditure. This highlights once again the clear need for definition of the impact study area and exclusion of those impacts and effects that will occur outside that study area, or that would have occurred locally anyway regardless of the new event or development.

There is some debate around what level of focus or size of study area is acceptable, or desirable: Benjamin (1981: 153) held that the purpose of the economic impact assessment is to quantitatively paint an economic picture on the national level to properly inform prioritization and financing decisions. National consideration of economic issues is seen as a given in economic impact assessment, though he does admit that this should be informed by social considerations at a regional level to ensure relatively equal economic rates of growth. This limited approach sees some critique, most notably from Taylor *et al.* (1992: 168), who favoured regional economic impact assessment over its national

counterpart. The primary reason for this is that the factors in consideration when establishing a baseline economic projection, or profile of an economic situation, are different at the national and regional level. Something may fundamentally affect a regional economic projection based on its strong influence on a regional economic factor, but the effect will have little influence on national economic data as the national context is generally informed by multiple regions. Thus a purely national approach will fail to fully appreciate the gravity of a regional economic impact, skewed as the national figures will be by the broader context.

Possibly the best approach is a combination of economic impact at the unique regional or local level seen in the broader national context (Crompton, 2006). Typically, though, the extent of the impact which should be covered is determined by the nature of the economy and the scale of the project relative to it. Should a project be too large in terms of its ability to skew the weighting of certain variables within a small economic impact area, then the project will be assessed in a larger economy. Should the project be too small, and have no noticeable effect on regional or local economic indicators, then other influences it might have such as causing a shortage of key factors in the area can be considered.

Either way, what is clear is that the lens through which a development is viewed must be clearly defined at the outset of an economic impact assessment. Failure to do so will result in ambiguous outcomes with little real applicable value (Crompton, 2006: 73).

Costs v benefits

One of the greatest and most pervasive of criticisms of the practical implementation of the theory behind the economic impact assessment is that while one of the fundamental cornerstone objectives of the economic impact assessment is to provide an overall assessment of all economic costs and benefits arising from the proposed development, very often only the benefits are provided. There exists, indeed, some contention as to just what the term 'economic impact assessment' entails in practice. Van Zyl (2010), a leading South African economic consultant, holds that by the nature of the term 'impact', there

should be an assessment of the economic costs arising from the project. However, in practice Van Zyl (2010) says that many times only the economic *benefits* arising from the project are considered, and that to call such an assessment an economic IA would be stretching the term 'impact'. Crompton (2006: 75) held that 'economic impact studies report only economic benefits'. However, it is clear that in the development of a project or event, there are likely to be corresponding costs to the increased economic benefits.

Typical costs fall into three broad categories, namely community, opportunity and deflected spending (Crompton, 2006).

Community costs

Firstly, those borne by the local community. These could include things such as heightened crime as a result of the prestigious event being held in the locale, vandalism, traffic jams etc. Frequently these costs are quantifiable in monetary terms, but oftentimes it is simply impossible to calculate in monetary terms just what negative impacts would cost the society as a whole. For example, the expected increase in crime in South Africa as a result of the World Cup will have a negative impact. Some of the cost thereof can be quantified by the cost of the increase in police forces over the period; but how is the effect on the family of a murdered father quantified? Where such community costs can be quantified, they should be, and where they cannot, they should at least be mentioned in the report so that policy makers are fully informed as to those economic impacts of a project, both the good and the bad (Crompton, 2006).

Opportunity cost

The second cost is the opportunity cost, which are those benefits that would be forthcoming if an event was not held or a project was not considered for development. For a government project, it is either the benefit that would be forthcoming from an alternative development or the benefit to the taxpayer from retaining the tax money for personal consumption. This is a very important consideration, as seen by the DEA's guidelines for the process of economic impact assessment in South Africa (Van Zyl *et al.,* 2005) (see Figure 1 in Appendix B). It is the underlying consideration that must always

take place when contemplating a particular course of action: what could the money achieve elsewhere? It is absolutely essential to consider the cost otherwise the money cannot justifiably be reckoned as being used to the utmost good (Van Zyl *et al.* 2005). That is a problem, especially with public investments. The concern around the oftentimes exclusion of this obvious cost from economic impact assessments is it completely inflates the value of a project or development far beyond what it should be merely because there is no valid comparison with either an alternative for development or a baseline scenario. It should be noted that multiplier effects that apply to e.g., tourism investment will find similar application if government should decide to invest in other areas e.g., agriculture (Crompton, 2006: 76). The economic causal chain is not unique to subjects of economic impact assessments, and assessors would do well to bear this in mind.

Deflected spending

As Crompton (1999: 33) stated, the third cost is that of deflected spending. This is particularly relevant upon the holding of a large tourism event, which may attract many visitors. The large influx of visitors into an area, or a town, will have many positive effects in terms of increased expenditure over the period of the event. However, the negative effects created such as noise, busyness, traffic congestion etc. may keep away visitors who would normally have visited. The 'deflected spending' or 'displacement cost' (Crompton, 1999: 33) may reduce and even eliminate the increased economic benefit brought about by an event (Crompton, 2006: 77).

While economic impact assessments differ greatly depending on the context they are undertaken in, the importance of cost inclusion in the analysis is a constant that should never be excluded in order to ensure a consideration of 'impact' rather than 'benefit'.

Who pays?

Many problems and criticisms of the impact assessment technique arise from the practical implementation of the theoretical ideals. Barrow (1997: 79) noted that one such notable problem relates to the question of payment for the impact assessment. The various activities necessarily related to the implementation of the IA can have considerable costs.

Typical costly activities include data collection and study, report writing and circulation, delay to development costs, legal costs, mitigation costs and any other cost which arises as a result of the need to alter the planning for the development because of the IA results (Barrow, 1997: 79). There are two primary contributing factors to the costs of these activities. The first is that the site for development requiring some form of IA is frequently located in a remote region making extensive research and travel necessary by assessors in order to obtain the relevant data. The second reason is that many of the activities needing to be performed in pursuance of an IA require expert advice and analysis. These assessors are often employed by consultancy firms, either legal, social, economic, or environmental. Owing to the extensive investment these individuals have made in their education, their labour costs tend to be higher than average wages. Thus cost can be a considerable limitation in the implementation of IA's, especially if the development is being conducted on a tight budget, with little leeway to make up for shortfalls necessitated by changes in developmental approach as a result of the IA. Nevertheless, impact assessments, correctly implemented, can result in prevention of extensive economic, social and environmental losses. Investment can be made without due diligence being conducted as to the baseline projection or possible costs and benefits of the project and this leads to poor policy formation. A case in point is the Tanganyika Groundnut Scheme, undertaken by the UK in the 1940s and 50s in what is now known as Tanzania. Sizeable investments were made without analysis of soil conditions and rainfall patterns, which needless to say were not conducive to groundnut production. It resulted in losses which could have been averted by a timeous impact assessment of the proposed project (Barrow, 1997: 79). Burdge and Vanclay (1996: 61) supported the hypothesis, in that SIA's implemented with recognition of community concerns will tend to minimize local resistance to development, increasing overall success and "preventing major planning disasters and associated costs".

Generally speaking, it is very problematic assessing whether or not an IA has been 'successful', that is, averted more costs than it cost itself. This is due to the often unquantifiable nature of averted costs bound up in the social context (Barrow, 1997: 79).

The costliness of IA's and uncertainty surrounding the benefit of obtaining such an assessment before the project commences raises various difficulties. It is generally accepted that the developer pays for the cost of the impact assessment. This is necessary because the developer is in most cases the only interested party with the required financing to commission an IA, which raises two problems (Barrow, 1997: 80).

Implications

The first one is that of objectivity. An assessing body should as far as is humanly possible provide objective research, analysis and results in the process of conducting the IA. However, if the assessing body is paid by the developer, which could create an incentive for the assessing body to create reports favourable to its source of income. The previous point of view is eloquently expressed by Duunavant (1989: 3), in his lambasting of consultancy firms as being swayed by the pressure to conform to what the paying party wants to hear: "and what they want to hear is that their event or team or whatever is going to generate a lot of money". The core of the problem is that specifically economic impact assessments are frequently undertaken as a reinforcement of the legitimacy of a prior proposal, especially with regards large corporate development (Crompton, 2006: 69). Meant to be objective, experts contracted to carry out economic impact assessments are driven as much by the pursuit of profit through their work as is the developer through developing. It does not take much to render a study hugely positive – a simple assumption or omission at a critical level will ensure a desired result while still maintaining a facade of seeming professionalism. The issue of contention with economic impact assessments is fuelled by the often high and unverifiably positive numbers emerging from the process (Crompton, 2006).

Moreover, if legislation in country A is conducive to development in the least costly way possible – i.e. with no IA legislation – then it will be more attractive to profit-driven firms seeking to maximize their utility than country B where rigorous IA legislation is enforced. This could be said to create an incentive for governments of particularly developing countries to either impose lax legislation or implement a lax method of enforcement, in

order to attract development on a least-cost basis. Either that, or the authority could be willing to accept a low-standard IA in return for e.g., a bribe (Barrow, 1997: 80).

Assumptions

Another notable criticism of particularly those impact assessments dealing with economic variables and factors is that of assumptions, as in Batey *et al.* (1993: 184-185), where the following passages can be found:

> "Some items under category (2) were judged to be prone to leakage out of the metropolitan economy. In the *absence of any information* about the extent of this, *we assumed* that half would pass through the local economy and that half would be lost through leakage." (emphasis added)

> "We assume that half of the excess of this figure over expenditure on airport fees, income to employees, etc., is spent locally."

> "Also, for the purposes of this exercise, we assumed that 5% of travellers break their journeys"

Assumptions utilized as premises in calculations are themselves not the problem (indeed very little progress could be made in any form of analysis without assumptions of any kind; Pingle, 2010), but rather that they are often unexplained or unsubstantiated, creating uncertainty as to why certain processes or methods were followed and how. There are two primary difficulties which arise from an 'unsubstantiated assumption'. Firstly, while assumptions frequently have no significant bearing on the final result as a whole, they still sometimes can (Crompton, 1999: 17). In this case they should be substantiated as far as is possible to ensure a cohesive soundness and validity of the argument. A weak assumption means a weak, indefensible foundation which means, frequently, an inadequate outcome. Secondly, the parties ultimately responsible for making policy decisions based on the assessment report will have little hope of discovering the 'shortcut' taken by the assessor in coming to the final impact conclusion (Crompton, 1999: 17), or understanding the

implications thereof if they do. The asymmetry of expertise between decision makers and assessors makes explanation of method that much more important.

Conclusion

Having reviewed the relevant literature, a critical comparative analysis of the quantitative economic case study assessments will follow, focusing on three primary aspects: firstly, the approach adopted, secondly the data collection and finally the outcomes achieved. Following this a critical analysis of highly quantitative economic IA methods as a suitable means of assessing the distributive effects of a developmental project will be undertaken.

Chapter Three

THE APPROACH

As previously mentioned, the three case study assessments (hereinafter referred to as 'the SEIAs') were commissioned by SANP as part of the ongoing monitoring and mitigation processes arising from the expansion of the AENP and the 2003 Strategic Environmental Assessment (CES, 2003). Rather than fulfilling legislative requirements for development, as in the National Environmental Management Act (NEMA, 2008), the SEIAs were completed to comply with requests from the World Bank as a primary funder. SANP was appointed as administrator of the GEF grant for undertaking the assessments, and thus the terms of reference for each assessment were informed by SANP (CES, 2003).

Chapter Three will critically consider and compare the broad approach that Saayman and Saayman (2005), Connor and Zimmerman (2008), and CES (2010) utilized in the impact assessments of the AENP. It will focus on the *extent* of each assessment, informed by a consideration of terminology, scope, terms of reference and impact area, seeking to assess some of the structural issues concerning the applicability of IAs to specific contexts. In particular, the implications of the following issues will be discussed:

- The terminology debate and the balance between economic and social factors of consideration
- The approaches adopted by the case studies and how these affect their purpose as monitoring exercises

Broad overview

Table 3.1 provides a broad overview of each assessment according to the generally applied processes prevalent in SIAs (Becker, 1997: 87). Each study was based on that which preceded it. Thus, decisions made regarding the scope and methods of Saayman and Saayman (2005) could have influenced CES (2010) in their approach -each group of assessors had the opportunity to consider what came before, and better the approach and methods they adopted in light thereof.

Table 3.1: Broad overview of the approach adopted by the case study assessments.

Process	Saayman and Saayman (2005)	Connor and Zimmerman (2008)	CES (2010)
Screening	Conducted as a monitoring and mitigation exercise upon the AENP's expansion programme – screening conducted in the original SEA (CES, 2003).		
Scoping	Conducted under mandated terms of reference from SANP.		
Baseline	Yes	No	Yes
Identification of alternatives	Conducted under mandated terms of reference from SANP.		
Data collection	Local business survey, AENP data	Local business survey, AENP data	Visitor survey, local business survey, AENP data, employee survey
Measurement of economic impact	Partial input-output table	Adapted Keynesian national multipliers	Adapted Keynesian national multipliers
Measurement of social impacts		Some in-depth personal interviews	Some in-depth personal interviews

Source: Saayman and Saayman (2005), Connor and Zimmerman (2008) and CES (2010).

Scope, terminology, factors measured and terms of reference

The 'scoping' phase of the IA process seeks to demarcate the limits of the study to ensure a comprehensive coverage of the relevant factors while excluding unnecessary time-consuming research on factors which are, perhaps, not so relevant (Finsterbusch, *et al.*, 1983: 19). Regardless of the study forming part of a legally mandated process or not, a scoping process will occur. The scoping process is undertaken when decisions as to the role variables play in the study are made. Thus this phase considers, essentially, the purpose of the impact assessment as a whole, and brings that purpose to life within the framework of the study (Taylor *et al.,* 1990: 84). Decisions made in the scoping phase of the process will include a limitation of study area (geographically speaking), a decision

regarding the time period on which the study will base its findings, and an identification of factors which will be included in the assessment process – in essence, *what* factors were measured, *where,* in what space of *time*.

What factors were measured

As Vanclay (2002: 185) indicates, owing to the unique nature of the social community affected by varying projects or developments, and the often impossibility of including *all* possible facets of social change as a result of the development (there are simply too many), the question of *which* impacts should be considered is frequently a controversial one. The purpose of an impact assessment can be deduced from the nature of the impacts the study sought to measure – thus if a study is focused primarily on purely social indicators and the measurement thereof then the assessment could be said to be 'social' in nature.

Saayman and Saayman (2005) highlighted four key factors for assessment: generation of income, creation of employment, improvement of economic structures and encouragement of entrepreneurial activities. Connor and Zimmerman (2008) considered primarily the economic performance and employment generation of local tourism business. CES (2010) highlighted four primary factors for consideration: generation of income, creation of employment, improvement of economic structures and visitor spending patterns. Measures of socioeconomic impact of the AENP on the surrounds were as follows:

Table 3.2: Indicators utilized in the case study

Measure	Saayman and	Connor and Zimmerman	CES (2010)

	Saayman (2005)	(2008)	
Employment levels	Yes	Yes	Yes
Local business performance	Yes	Yes	Yes
Visitor spend and numbers	Yes	AENP income data only	Yes

At first glance, the assessments focused on the same socioeconomic indicators as part of the monitoring process. However, the definition of 'employment' that each report utilized is different. In 2005 and 2008, the indicators were average numbers of employees per local tourism establishment. In CES (2010), the business survey included service providers to the Park and thus the employee indicator was completely different from Saayman and Saayman (2005) and Connor and Zimmerman (2008). In the same way, local business performance was an indicator of socioeconomic performance for the impact area for all three assessments, and yet the nature and size of the samples differed from report to report to make the results very difficult to compare. For instance, Saayman and Saayman (2005) surveyed 114 local tourism businesses within a 30km radius of the Park. Connor and Zimmerman, on the other hand, surveyed only 52 local tourism businesses within a 50km radius of the Park. CES (2010) surveyed 42 local tourism businesses utilizing a 50km impact radius and a further 44 service providers to the AENP from as far afield as Cape Town. The results as to local business performance will differ in *nature* because of the different indicators and methods used. The same is true of the visitor expenditure patterns and numbers as an indicator of economic wellbeing. Visitor expenditure and numbers were surveyed by Saayman and Saayman (2005) and CES (2010). However, Connor and Zimmerman (2008) utilized AENP income from tourism as a proxy for tourist expenditure patterns.

As an example of how the differences in approach could affect results of the reports, the differences in final analysis because of the differing definition of impact area in the studies can be considered below:

Example 3.1: Differences in impact area

Saayman and Saayman (2005) defined their impact area as being a 30km radius around the AENP. Reasons cited for the choice include practicality and a desire to exclude Port Elizabeth from the impact assessment due to the expected skewing effect it will have on results. As indicated in the figure below, a 30km radius of the AENP excludes large urban areas such as Grahamstown and Port Elizabeth and focuses purely on small towns and more rural areas such as Kirkwood, Paterson, Addo, Colchester and Alexandria. Larger towns were expected by Saayman and Saayman (2005) to 'cause deviations in the calculations' due to the large industry present in those urban centres.

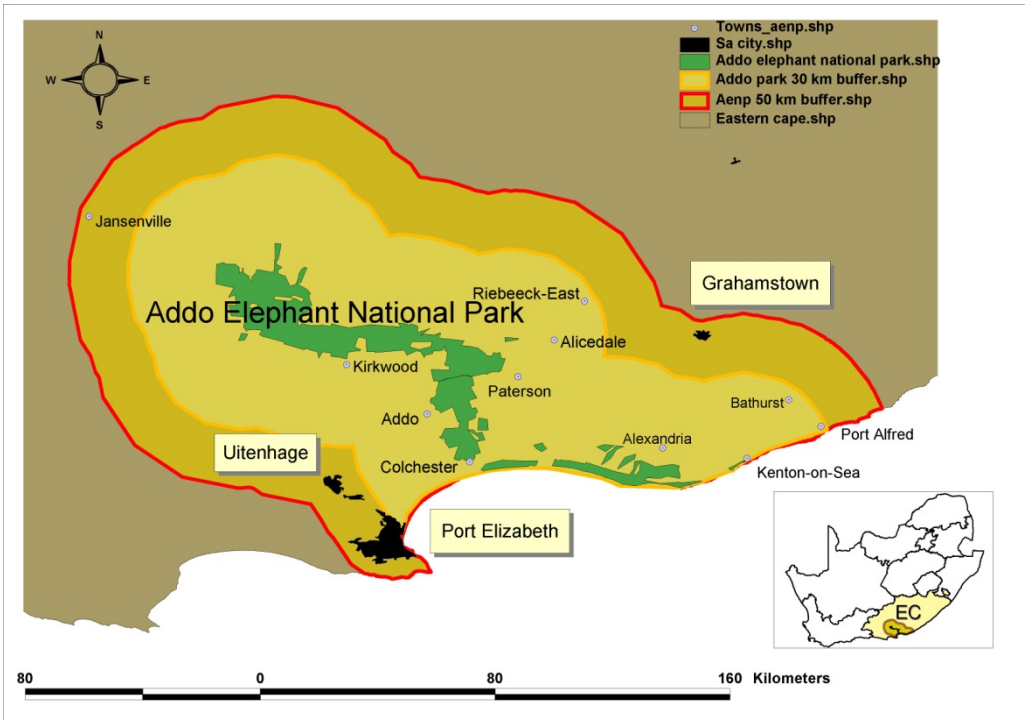

Figure 3.1: Impact areas of the AENP SEIA's.

Source: CES (2010: 4)

Note: The 30km study area utilized by the 2005 assessment is clearly defined in the lighter yellow, and it can be seen that the impact area excludes the towns of Port Elizabeth, Uitenhage and Grahamstown. The larger 50km radius used by both the 2008 and 2010 studies can be seen outlined in red (CES, 2010: 4).

Connor and Zimmerman (2008)defined the impact area as a 50km radius of the AENP. The report gave no indication of the reasoning behind this choice. Should the assessors have kept the original 30km radius, they would have been able to compare results with Saayman and Saayman (2005) as well as Saayman's derived multipliers for the 30km radius.

The CES (2010) assessment similarly chose a 50km radius of the Park for its assessment, based on the following reasoning: the AENP sources many of its supplies, as do its employees and other local tourism business, from the larger regional towns and cities. Owing to the significant economic impact the AENP is expected to thus have not only on the local agricultural economy but also the regional economy as a whole, the choice

was made to opt for a 50km radius of the Park including highly urbanized, industrialized areas. Moreover the choice of a 50km radius allowed the comparison of results with the recent 2008 assessment, in order to consider the possibility of change.

The relatively industrialized areas of Uitenhage and Port Elizabeth, as well as Grahamstown, are excluded in Saayman and Saayman (2005) while Connor and Zimmerman (2008) and CES (2010) include these cities in their impact areas. Excluding the Nelson Mandela Metropole from the impact area alone would result in a decrease in population size by 1 005 784 (2001 census). Moreover, the economy sizes given the large industry present in the 2008 and 2010 definitions of impact area are different. Thus economic multipliers differed from assessment to assessment, leading to a difference in overall impact figures. To illustrate this, Saayman and Saayman's expenditure figures and final impact figures are compared with scenario 1, where the expenditure figure remains constant and the multiplier figure changes to CES (2010):

Table 3.3: Change in impact figure with differing impact area

	Saayman and Saayman (2005)	**Scenario 1**
Impact area	30km radius	50km radius
Output multiplier	1.18	1.54
Total expenditure figure	R33 452 141	R33 452 141
Output effect of AENP	R39 473 526.38	R51 516 297.14

The effect on final impact figures because of a change in the definition of impact area and resulting change in multiplier is significant, increasing from R39.5 million in a 30km radius to R51.5 million in a 50km radius.

The indicators are all the same – employee numbers, local business performance, and visitor expenditure patterns and numbers. However, each group of assessor's *perception* of that indicator was different, and resulted in varying interpretations of what to measure.

Balance between economic and social factors of consideration

The factors considered by each assessment and *how* they were measured suggest a focus of study which is primarily economic in nature. Employment created, income, local business performance and expenditure patterns are economic indicators, despite employment and income having a social impact as well. The primary tools of analysis were economic multipliers, a highly quantitative form of economic analysis. Indeed Saayman and Saayman (2005: 5) expressed one of their chief objectives as "estimating the economic impact of AENP on the local economy…" while Connor and Zimmerman (2008) indicated the primary purpose of their study as "indicating what precise socio-economic contribution the AENP makes towards the regional economy…". Thus, based on the factors assessed, the SEIAs strongly emphasize economic methods of assessment.

However, the assessments were all termed 'socioeconomic' analyses. Saayman and Saayman (2005) briefly define 'socio-economic' as "deriving from both social and economic factors". They also pay mention to the broader 'umbrella' definition of social as anything which might impact on people (Saayman and Saayman 2005: 4). Connor and Zimmerman (2008) did not define the use of their term 'socio-economic', but it is implicit in their emphasis of economic factors for assessment that they viewed 'socio-economic' as primarily economic in nature. CES (2010) made widespread use of the term 'socio-economic', as in the two previous assessments, but CES (2010) did not explicitly define the term 'socio-economic'. It is, however, hinted at in the objective of the report, which sought to: "gain additional insight into the actual benefits of conservation interventions that accrue to the local people and economies" (CES, 2010: 1). Moreover, the assessments expressed a desire to measure the 'socioeconomic' impact of the AENP on the 'local people and communities', as seen in Table 3.4:

Table 3.4: Use of terminology 'local communities':

2005	2008	2010

"The focus of this project is the socio-economic impact of the AENP with the aim to estimate the socio-economic impact of the Addo Elephant National Park on the surrounding communities. This will establish to what extent AENP led to tourism-related as well as other development in the surrounding area and the corresponding social and economic impact the park has on **local communities**."	"Whilst the ecological implications of Parks are well-known, comparatively little is known about the contribution of South African national parks to the economy, and the benefits that accrue for local residents. These benefits are important in developing a picture of how the AENP may contribute towards improving the lot of previously disadvantaged groups, particularly **neighbouring communities** around the existing Park."	"SANParks are striving to maintain and measure the socio-economic impact of the developing park and to gain additional insight into the actual benefits of conservation interventions that accrue to the **local people** and economies, whether this be through job creation, improving sustainable livelihoods and skills development or through economic modelling."

Source: Saayman and Saayman (2005: 4), Connor and Zimmerman (2008: 9-10) and CES (2010: 1)

The perception created by stating that impact on 'local communities' will be assessed is that there will be a strong focus on purely social indicators and measures of assessment (as opposed to purely economic factors) or at the very least an equitable balance between social and economic factors in the SEIAs. Ambiguity arises when considering the contrast between what the IAs were termed and their stated purpose of assessment with the actual factors and methods of assessment that they employed. Simply put, the assessors stated something different to what they had.

Saayman and Saayman (2005) focused primarily on "direct tourism-related businesses" (2005: 5) - achieved by means of a survey of local business – and AENP and visitor expenditure figures. Some employment data and thus socially oriented figures were collected by means of the business survey. Employment figures do provide a social indicator in that incomes directly affect the social fabric of a community. In this way the social impact of the AENP has begun to be measured, but the focus is still predominantly economic in nature. Referencing Mathieson and Wall (1984: 133), Saayman and Saayman

(2005) explain their limited choice of quantifiable economic factors by stating that socio-economic assessment will "include generation of income and employment". While socioeconomic assessment may include income and employment as indicators, it is not a very *inclusive* range of factors upon which to base a 'socio-economic' impact assessment of the effect of the AENP on surrounding communities. Thus potential social factors excluded from the analysis are those more qualitative in nature e.g. how does the quality of local culture change if the primary breadwinner is employed in the tourism sector as opposed to the agricultural sector, or if there is increased urbanization, forced by eviction of farmworkers from farms?

Connor and Zimmerman (2008) exhibited a similar economic bias to the Saayman and Saayman (2005) report, and collection of primary data is also from local tourism businesses. Three qualitative interviews were undertaken with key respondents to provide an idea of the perceptions of the local community towards the Park. However, the role these outcomes played in the report were far outweighed by the economic focus. The imbalance is indicated by the extent to which space was given to the qualitative interviews (1 page) as opposed to the purely economic appraisal (55 pages) in the final report.

The CES (2010) report followed a similar emphasis as Saayman and Saayman (2005) and Connor and Zimmerman (2008), focusing on employment growth and the effect of the Park on the local economy. The CES (2010) assessment, on the other hand, exhibited a broader scope of study, including not only a local business survey, AENP expenditure, tourist survey, and key respondent interviews, but also a survey of employees of both the AENP and local business. From these sources the report was able to build a picture of the economic and social impacts of the AENP on the surrounding communities and economy. However, the approach in the CES (2010) assessment was still predominantly economic in nature.

It is clear that the three assessments included some aspect of social consideration in their 'socio-economic analyses'. Economic effects will have impacts on social factors. However, what is also clear is that the three assessments are *primarily* economic in nature – Connor and Zimmerman (2008) go so far as to define 'socio-economic' as a purely

economic term in its statement of purpose. The primary focus of each is the effect that the AENP has on the local economy, either directly through visitor and Park expenditure, or indirectly through its effect on local business. Method is informed by that, and so are the factors to be measured. Even the Saayman and Saayman (2005) report, assuming the latter two were modelled on its approach and considerations, offers little justification for *excluding* key social variables. It does provide sound reasons for *including* economic factors for consideration, but it leaves much unanswered.

Terms of reference

The original purpose for the monitoring exercises was contained in the TOR. In a full SIA, a scoping phase would have been responsible for determining these aspects of the study. In the monitoring exercises, however, there is no evidence of a scoping phase, and factors assessed were directly influenced by SANP, the commissioning body, through the terms of reference. The TOR might bring an understanding to what influenced the scope of the assessments in terms of what they assessed and how.

In the CES (2010) report, the following task was mandated by SANP:

"**To estimate the impact of eco-tourism business development within an average 50km radius of the AENP and determine the socio-economic costs and benefits experienced by the region, that can be attributed (both directly and indirectly) to the park**"(CES, 2010: 1).

This research goal could potentially encompass a broad range of potential impacts. However, it was further clarified to include the following tasks:

Extract 3.1: Task One of the original TOR for the CES (2010) SEIA

1. A research design must be submitted for approval by SANParks.
2. A preliminary analysis of available data must be done and findings delivered.
3. Data should include total numbers of accommodation facilities (formal and informal), dates established, rates and occupancy, number and types of jobs created, salaries and number of dependents supported, and skills development programmes.)
4. Results should estimate the economic investment impact of AENP on the

Source: CES, 2010

The CES (2010) TOR were strongly biased towards a preference for economic factors to be assessed. Similarly in Task two of the CES (2010) TOR, SANP mandated that assessors use a highly quantitative economic method of analysis in determining the deliverables:

Extract 3.2: Task two of the original TOR for the CES (2010) SEIA

Using a multiplier analysis or other accepted and defendable methodology, determine visitor spending patterns, market segments and tourism income attributable directly or indirectly to the AENP.

1. A Multiplier analysis should be used to determine:

    1. Direct spending by visitors on tourism products and also the direct employment as a result of the expenditure.
    2. Estimate the income leveraged by local businesses through the use of

Source: CES, 2010

While only the original CES (2010) TOR were available, the summarized versions of the other case study assessments are included within the final reports and are available in table 3.5 below:

Table 3.5: Summarized terms of reference for the case study assessments.

Terms of Reference		
2005	**2008**	**2010**
"The focus of this project is the socio-economic impact of the AENP with the aim to estimate the socio-economic impact of the Addo Elephant National Park on the surrounding communities. This will establish to what extent AENP led to tourism-related as well as other development in the surrounding area and the corresponding social and economic impact the park has on local communities." (Saayman and Saayman, 2005: 4)	"Task One would generate information what would depict the social and economic impact of eco-tourism businesses within a 50km radius of the AENP. Task Two would use a multiplier analysis and a cost benefit analysis to determine visitor spending patterns, market segments and tourism income of the AENP as well as surrounding businesses." (Connor and Zimmerman, 2008: 11)	"To determine the socio-economic costs and benefits experienced by the region, that can be attributed to the park. To estimate the direct and indirect economic impact of the AENP on the local economy (focusing on the area within a 50km radius of the AENP) using a multiplier analysis." (CES, 2010: 1-2)

Space of time given for assessment

The assessment process completed by CES (2010) was done under enormous pressure – SANP allowed just two and a half months for assembling the project team, data collection, analysis and report write-up:

Extract 3.3: Due date of CES(2010) SEIA

> "It is expected that the project would be completed by 01 March 2010 and require an estimated 175 person days to complete."
>
> Sourced from the original TOR, CES (2010). (the project was awarded in December 2009).

This is a short space of time in which to conduct an assessment comprehensive in its analysis of the relevant economic and social aspects of the AENP's impact. This resource constraint was compounded by limited budgetary allocation for the carrying out of the assessment, as all assessments tend to be. It is unclear to what degree the other case study assessments were limited in terms of time and budget, but it is a factor for consideration when examining just what each assessment managed to measure and the extent thereof.

Broader contextual assessment of socioeconomic trends

Assessing change with the greater socioeconomic perspective as a backdrop allows comparison of a 'shadow' scenario (the area without the AENP) with the actual scenario as elucidated through the assessment process. This stage of the process is essential in order to ensure a comparative presence within the impact assessment – of the socioeconomic context with the AENP, and the socioeconomic context without. It is only after this has been duly completed that conclusions can be drawn as to the overall socioeconomic *effect* of the AENP on its surrounds. How will it be possible to measure impact without knowledge of what the AENP is impacting on?

Saayman and Saayman (2005) provided a detailed overview of the Eastern Cape in terms of main industries, population, education, employee income and GDP. However, very little data or indicators are provided for the impact area in the direct surrounds of the AENP itself. As the assessors held, "unfortunately no census results are available for the region around the AENP" (Saayman and Saayman, 2005: 6). Some comment was provided on the main income for the region being agriculture and tourism, but very little real depth is achieved in terms of drawing a baseline for the 30km study area of the AENP. This is slightly problematic given that results will have to be interpreted in an Eastern Cape context, but the results themselves are designed to specifically exclude large industrialized urban centres. Connor and Zimmerman (2008) included no profiling phase in its report. The Eastern Cape trends were only mentioned in a latter section of the report, and then only tourism information with little relevance to the broader socioeconomic context in which the AENP operates.

The 2010 report provided an overview of household income, employment levels, population demographics, and education levels for the specific 50km impact area in the surrounds of the AENP. This was achieved through use of government census data from the 2001 census, applied ward by ward to the relevant geographical areas in the surrounds of the AENP. Moreover, tourism trends and profiles for the greater Eastern Cape and Nelson Mandela Bay Metropole regions were established, data being unavailable for the Sunday's River Valley region. However, the census data is 9 years old, making comparison with the findings of the impact assessment problematic.

The need for contextual assessment of socioeconomic trends as an explanatory factor informing decision-makers was not recognized by the case study assessments, an omission which has implications for the monitoring function of the SEIAs.

Implications for extent of approach

Reflecting on the purely economic process, method and TOR followed by the three assessments, and the nature of the terms of reference, it would appear that the commissioning body played a primary role in ensuring the imbalance between social and economic factors considered. Resource constraints no doubt contributed to the limited extent of approach. What is further seen from the case study is that naming the assessments 'socio-economic' allowed the consideration of economic impacts and factors while still creating the perception that the assessments were dealing concisely with a balanced range of relevant economic *and* social impacts.

Whether or not the commissioning body was justified in choosing the scope and methods of assessment that they did, given the nature of the socioeconomic context and the recommendations of the 2003 SEA regarding monitoring, will be considered in Chapter Six.

Implication for usefulness of the approach in monitoring processes

Although only the original CES (2010) TOR was available for consideration, it can be assumed, as they were part of a monitoring process and measured similar indicators, that the others had the same or very similar TOR. The different perceptions, translations and

interpretations of the TOR by each group of assessors does mean different approaches despite measurement of the same indicators. As part of a monitoring exercise, then, the usefulness of the case study assessments is limited, as different approaches means that the overall results cannot be interpreted as if the framework of analysis was the same. Moreover, the absence of a contextual critique of the socioeconomic framework in which the assessments took place makes the drawing of conclusions as to *change* in socioeconomic conditions difficult, if not impossible.

Chapter Four

DATA COLLECTION

Economic impact assessments are primarily grounded on quantitative data (Snowball, 2008). For this reason data collection is a pivotal stage of the assessment process, for while data reflects reality, it can skew that reflection. Incorrect method and application thereof can lead to largely irrelevant findings. This is illustrated by Baneyee *et al.* (2006: 53), who found that due to flawed collection processes, World Bank data is "not remotely reliable". Bias can be present through the construction of collection methods that are unsuitable for the context or are methodologically unsound. This is of particular relevance when considering the economic impact of, e.g., a tourism facility, where visitors are surveyed to obtain expenditure data (Crompton, 1999). While it will be impossible ever to obtain a perfect data set and some level of bias and error will always exist within the data, methods can be improved to reduce the possibility thereof.

The method behind both the formulation and administration of questionnaires will be considered in this chapter. The purpose is to consider biases and the overall reliability of the data through comparative analysis of the collection methods used in the case study assessments.

Important points of consideration will centre around a multi-level analysis:

1. In the first instance a broad overview of how the factors to be measured in each study translated into data collection processes.

2. Secondly, an appraisal of the method employed in collecting the data deemed necessary to undertake the assessment process. This will include consideration of both questionnaire formulation and administration techniques.

3. Finally, a consideration of the comparability of the data collection methods in terms of the implications for the use of the SEIAs as part of a monitoring process.

Broad data overview

A brief overview of the data collection methods utilized in the case study summarized in table 4.1:

Table 4.1: Source of data and means of collection

Assessment	Local business	Employees	Visitors	AENP	Community opinion
Saayman and Saayman (2005)	Tourism by means of survey	-	Visitor expenditure by means of survey	AENP expenditure from financials	-
Connor and Zimmerman (2008)	Tourism by means of survey	-	Adapted from national tourist spend	AENP expenditure from financials	In-depth personal interviews
CES (2010)	Tourism and service providers by means of survey	Employees of tourism, AENP and service providers – survey	Visitor expenditure by means of survey	AENP and related projects expenditure from financials	In-depth personal interviews

Questionnaire formulation

Questionnaire formulation is an important factor for analysis owing to the effect that design can have on the quality and level of feedback received from respondents. As Crompton (1999) points out, it is commonly accepted that an overly lengthy questionnaire dealing with arbitrary issues will negatively affect the overall nature of the

data collection process. This will, inevitably, introduce some bias and/or error into the final assessment outcomes (Snowball, 2008). However, one of the great difficulties in seeking to assess survey data in terms of quality is that the subjective nature of the process defies objective consideration. Not only will different groups of assessors approach information gathering in different ways but respondents' answers cannot be measured against an objective truth (although triangulation is possible). The conclusion, then, could be that there is no real 'right or wrong' in formulating a questionnaire or in an answer given. However, it is possible to draw some distinction between 'bad questions' and 'good questions', in that 'good questions' will be more inclined to lead the respondent in answering to a meeting of the minds with the assessor. In this way one could potentially differentiate between 'good' and 'bad' questionnaires. Thus when Crompton (1999) and Snowball (2008) have indicated from their experience that certain methods of questionnaire formulation are 'better' than others, what they mean is that higher rates of response and quality are achieved using such methods. This section of chapter 4 will consider some aspects of the questionnaire formulation of the case study and draw some conclusions as to how method can be bettered.

The Saayman and Saayman (2005), Connor and Zimmerman (2008) and CES (2010) business surveys were conducted on a similar sample, although Saayman and Saayman (2005) surveyed a greater number of businesses (n:106) than Connor and Zimmerman (2008) (n:52) or CES (2010) (n:85). Unfortunately only the questionnaires employed by the Connor and Zimmerman (2008) study and the CES (2010) study were available and thus critical comparison will be limited to these two studies. A brief appraisal of the differences between the two business questionnaires does, however, indicate that there is enough scope for comparison and the drawing of helpful conclusions regarding questionnaire formulation and design. The questionnaires are to be found in Addendum D. Many of the interviewed businesses by CES (2010) were also interviewed by Connor and Zimmerman (2008).

Length of Questionnaire

There are two forms of length – physical length and length in terms of time taken to answer. Physical length is only relevant in how it might affect the time taken to answer. Crompton (1999) held that the time taken to answer a questionnaire can contribute to the quality of responses. The question to be answered is thus whether a short, well-read, easily answered questionnaire will aid in holding the respondent's attention and ensuring a high level of quality in the responses received and thus the data collected (Crompton, 1999: 35).

The difference in physical length between the questionnaires is evident. Connor and Zimmerman (2008) created a questionnaire of 19 pages, with 42 questions asked. CES (2010), seven pages long, asked 35 questions. In this way, the length of the questionnaire could conceivably affect the outcomes achieved in the assessment process.

The difference in approach and thus response obtained between Connor and Zimmerman (2008) and CES (2010) is useful in analysing this aspect: firstly, the CES (2010) questionnaire asked very few open-ended questions – three out of the 35 questions employed in the questionnaire. This is in contrast to the Connor and Zimmerman (2008) questionnaire, which asked 11 open-ended questions. The manner in which CES (2010) went about formulating the questionnaire was to provide a multiple choice list of possible answers to guide the answering process by the respondent. In this way it was hoped to ensure a 'meeting of the minds' between the intention of the assessor in formulating the question and the respondent's train of thought in answering. The purpose of ensuring meeting of the minds was in this case to facilitate a shorter period of time required for the interview, thus contributing to response rates and quality. For example, in a question from the CES (2010) business questionnaire:

Extract 4.1: Question from CES (2010)

What were the three biggest challenges your business faced on startup?

□ the Recession, □ Securing finance □ Establishing business □ Marketing □ Staff training & sourcing □ Lack of infrastructure □ Staff transport □ Staff housing □ Bad workmanship □ Fencing □ Breeding of wildlife □ Other (please specifiy)
……
……
□ None

This is as contrasted to the same form of question in the Connor and Zimmerman (2008) questionnaire:

Extract 4.2: Question from Connor and Zimmerman (2008: 63)

What were the three greatest challenges faced by the business in the beginning?
a.
_____
b.
_____
c.
_____

It is seen how when faced with the Connor and Zimmerman (2008) question, there is little to guide the respondent's answer to the assessors' intention. It is not that the questionnaire process creates the answers, but rather that, properly formulated, questions can aid in *guiding* the respondent to the kind of answer the assessor is seeking – something which might otherwise take more time to arrive at if an open-ended question is asked, thus leading to lower response rates. This is evidenced by the outcomes of the above questions in the final reports, where Connor and Zimmerman (2008) only reported on a third of the total possible responses (33% response rate). On the other hand, such

'channelling' of the answering process can lead to answers which are not reflective of reality, but rather the perception of that reality by the assessors.

Secondly, in several instances particularly in the Connor and Zimmerman (2008) survey, respondents were required to undergo lengthy answering processes involving a large amount of detailed information. For example, one question examined the nature of visitors to the tourist establishments, asking their origins, spending patterns and income per annum. The outcomes of this question were not mentioned in the final report and thus the question yielded data of little or no value to the outcomes of the assessment process. The data, were it obtained, would have been very useful in determining economic impact, and thus it must be concluded that the method of collection itself was flawed.

It is impossible to measure the *quality* of a response and thus difficult to draw conclusions as to how different methods of questionnaire formulation might affect the quality of responses. However, where there is a question yielding a high level of non-response, the respondents clearly had difficulty in answering, either because of inability or unwillingness to provide answers. In cases such as these the quality could be questioned.

Nature of questions asked

This section will briefly consider how the nature of the questions asked could have affected response rate or quality in the Connor and Zimmerman (2008) and CES (2010) business surveys.

The Connor and Zimmerman (2008) questionnaire sought to collect four primary sets of information:

1. The first set, that of basic business information, sought to describe the respondent's business – its longevity and performance over recent years.
2. The second set, that of employee information, sought to determine the "nature, type and numbers of employees and payment in kind offered by businesses in the AENP footprint".

3. The third data set sought to "determine the effect of the AENP upon business success and tourist numbers".
4. Finally, the assessors sought information as to turnover, bed numbers, visitor profiles and income and spending profiles.

Modelled on the Connor and Zimmerman (2008) questionnaire, the CES (2010) business questionnaire sought similar sets of information:

1. The first set was also targeted at determining basic business information regarding performance, longevity, employee details and the business' relationship with the AENP.
2. The second section of the questionnaire was exclusively for the attention of tourism businesses and sought information relating to bed numbers, target market, and primary local suppliers.
3. The third section was exclusively for 'service provider' firms and sought information as to who the main creators of business for the firm were.
4. The final section of the questionnaire sought general business perceptions as to the impact of the AENP on business and the surrounding area as a whole.

Consideration of the nature of questions asked in the business surveys raises two primary issues. First, the *content* of the questions asked and whether or not they adequately dealt with assessing those factors identified as relevant in the scoping phase. The aim is to assess how the pertinence or lack thereof of questions asked can contribute to overall length of the questionnaire and thus increase the rate of non-response. The second issue dealt with relates to the *manner* in which questions were asked. The analysis seeks to determine whether there are noticeable differences upon response rates and thus response quality.

Content of the questions asked

Consideration of two questions included in Connor and Zimmerman (2008) raise doubts as to the ability of the respondents to provide accurate responses of a high quality. The first question is indicated in extract 4.1:

Extract 4.3: Question from Connor and Zimmerman (2008: 69)

> In your opinion, how have employees benefited from their employment compared to previous work? :
>
> a. Little (and why?)
> _____
> b. Middling (and why)
> _____
> c. A lot (and why)
> _____

The question seeks to assess the relative benefit from current as opposed to previous employment. The question assumes that the respondent will understand the term 'benefit' in the same way as the assessor. However, the term 'benefit' can apply to specific performance related payment in kind or as a more homogenous unquantifiable relative utility gained from employment. The question is further complicated by the pronouncement of a value judgment by the employer as to the perceived *extent* of that benefit. The end result is a question seeking subjective perceptions as to an objective reality using an undefined value-laden judgment system of measure with the undefined term 'benefit' central to the meaning of the answer. Thus, despite the response rate of 91%, the reliability of the data obtained is questionable.

Understood in context, the question was probably seeking information as to how farm labourers have fared in the tourism industry relative to the agricultural sector. One of the primary motivators for particularly the expansion of the AENP into the surrounding farmland areas was that the labourers are better off in the tourism sector than the agricultural sector. The relative comparison of labour compensation, however, would perhaps be better understood by a survey of the employees themselves, rather than seeking information from current employers, which could result in a conflict of interests – the employee will be more likely to produce quality answers about their employment conditions than the current employer, who might have a biased view of the relative comparison.

The question could, perhaps, be better phrased as:

"What benefits do your employees receive?"

The answering process could include a list of possible answers such as wages, pension, medical aid, housing etc. which would guide the respondent to the kind of information the assessor is looking for. This approach, coupled with an employee survey, would provide a clearer picture with more reliable responses than that adopted by Connor and Zimmerman (2008). Specific information about tangible employment benefits in the tourism sector would, however, still have to be compared with the alternative – agriculture – in order to determine the net benefit of tourism to employees.

The second problematic question is:

Extract 4.4: Question from Connor and Zimmerman (2008: 72-73)

Please describe the type of tourists that may access your facility, and the numbers of each (approximations are ok).Eg: local, foreign, provincial

Table: Type of tourists & income over the past year

What type of tourist?	**Percentage of total per annum**	**Average spend per trip**	**Average length of stay**	**Income per annum**
Local (from the area)				
Provincial (from the EC)				
Countrywide (from SA)				
Foreign (overseas)				
Foreign (Africa)				
Day trips				

The question seeks in depth information about tourist numbers, length of stay, and spending patterns on an annual basis. The information must be further categorized into the origin of each tourist. Approximations for this data are probably possible, given the nature of the records kept by tourism establishments as to length of stay and origin of each visitor. However, detailed information as to the personal financial expenditure and total annual personal income of visitors is more difficult to approximate reliably. Respondents are limited in their ability to answer by the lack of access to information – this is illustrated by the absence of the data from the final report of Connor and Zimmerman (2008).

Directing the right questions to the right people is necessary to achieve response rates which are indicative of a high quality of collected data – the information sought in the

above question would be better off found in a visitor survey. Indeed CES (2010) included the above question from Connor and Zimmerman (2008) business questionnaire as part of their visitor survey. The response rate was good (222 completed questionnaires) – although the questions regarding personal annual income found poor response. The comparison between Connor and Zimmerman (2008) and CES (2010) indicates how asking the right people the right questions leads to a higher response rate with more reliable data.

Manner in which questions are asked

The question below has a 4% response rate. Out of 52 respondents just 2 provided answers to the questions (Connor and Zimmerman, 2008: 33).

Extract 4.5: Question from Connor and Zimmerman (2008: 75)

> 4.8 What type of products do you sell/market (eg: curios, leather goods, magazines, etc)? List the *most popular*, as well as their source and price
>
> 4.9 Please provide your approximate annual/monthly income derived from tourist products (ie: curios, etc) (How much do you buy them for?)
>
> 4.10 Please provide your annual/month spending on tourist products (ie: how much does it cost to buy them?)

While part of the non-response is because many of the surveyed businesses do not sell tourism products, a further contributing factor is the amount of detail and thus thought that a question of this nature requires from the respondent. These are owners of small hospitality businesses who deal with many pressing issues throughout the course of a day and to expect instant recall for such questions as the above is hopeful. However, the primary reason that this question did not evince a high rate of response is because it requests monetary expenditure and income figures. Disclosure of such 'sensitive' information could be perceived to be harmful to the business owner in some way. Therefore assessment of net economic impact using business expenditure data will be difficult in a small economy, where the companies are not publicly listed. A better manner

of discerning the above information without requiring the disclosure of sensitive material would be to ask who the business' primary suppliers are. An additional survey conducted of these suppliers in terms of their percentage of total turnover due to business around the AENP would provide a way of determining net economic activity through quantitative means without asking anyone how *much* turnover or income they generate. Such a process would, however, cost additional time and money to implement.

Questionnaire administration

Much of the theory on the subject of questionnaire administration in the context of impact assessment was developed in response to issues arising as a result of use of tourism data obtained through means of survey. Questionnaire administration is a key methodological stage in the survey process and can have critical impacts on the overall integrity of the collected data (Snowball, 2008; Crompton, 1999). Different methods of practical implementation of the survey process will result in different levels of quality in the sourced data. The primary source of critique is the justification as to *where, how* and to *whom* to administer the questionnaire. These issues merit critical discussion, and will be examined in light of the case study.

Where and How?

The question of where the data collection processes took place refers to the geographical location of questionnaire completion. Crompton (1999) has indicated that there is considerable difference to be found between on and off site completion of questionnaires. Both approaches have their advantages – off site completion refers to either posting or distributing the questionnaire remotely to the respondents for completion at leisure, while on-site completion is conducted personally. Off site completion suffers from a high rate of non-response, while on-site completion may result in a situation where the respondent is either unable or unwilling to divulge the required information at that point in time.

The Connor and Zimmerman (2008) and CES (2010) business surveys and CES (2010) visitor survey were conducted on-site by personal interview. Six interviewers visited the

place of business of the various chosen subjects in 2008, and two in 2010. The visitor survey in 2010 was conducted in the precincts of the AENP, at the main rest camp.

Implications of off-site interviews

There are clear disadvantages to conducting interviews 'off-site', i.e. by sending the questionnaire to various respondents. The response rate is expected to decrease, as there is little or no incentive to filling out a questionnaire and returning it. This is perhaps due to the opportunity cost of making the decision to answer the questionnaire – valuable time would have to be forfeited which could have been spent on other, more meaningful (perceived) activities. There is thus little effort made by respondents who have been sent questionnaires in the post or by email to respond suitably. This is confirmed by attempts to collect information in this manner in the 2010 SEIA (CES). The candidate found that the owners / managers of companies were unwilling to pay attention to the questionnaire emailed to them and respond meaningfully. Out of the 20+ emailed questionnaires, only two respondents replied. Perhaps the personal element also acts as a persuasive factor in that it becomes easier to do the survey than refuse to do it – this could result in a negative perception of the business which the owner / manager would be keen to avoid. The obstacle is, however, overcome in both the 2008 and 2010 business surveys and 2010 visitor survey by the use of personal face-to-face interviews, which saw a better rate of success than emailed off-site questionnaires.

Implications of on-site interviews

However, while on-site completion may promote response rates, it may reduce the *quality* of the data collected in cases where visitor expenditure is sought. In CES (2010), interviewers surveyed respondents in and around the AENP main rest camp area as they used the restaurant and shopping facilities. The respondents, while anxious to help the assessors in their task, were in many cases unable to provide the required information at a moment's notice. Where that information was provided, it was often the result of a 'rough estimate'. This is particularly true of questions relating to total visitor spending on the trip and within the surrounds of the AENP. The issue is perhaps not so much that

the interview was conducted on-site, but that the timing of the survey did not take into account that all the information required by the assessors would only be available when the trip was over. Should the expenditure data be utilized as part of a multiplier analysis, it will distort the final impact outcomes for the event in question. However, these disadvantages are almost impossible to overcome as respondents are unlikely to be alerted beforehand to the impending survey and thus will always struggle to provide accurate figures at a moment's notice. A possible means of overcoming the bias is to triangulate the data using other sources of data – CES (2010) utilized the AENP income from tourists as a measure of how accurate the expenditure data obtained from the visitor survey was. There is thus a trade-off between response rates for a visitor questionnaire and the quality of responses as to expenditure.

The balance recommended by Snowball (2008: 50) between self-completed questionnaires and personally administered questionnaires to avoid both interviewer bias and literacy bias was not achieved by CES (2010). The questionnaires of all three surveys (employee, business and visitor) were completed on a personal basis. This was essential especially for the business and employee surveys, as the literacy problems and language barrier experienced by many employees would have significantly reduced response rates. The visitor survey was conducted personally to avoid non-response, and was applied indiscriminately to every person / group who visited the rest camp of AENP while the interviewers were there. This ensured avoidance of 'interviewer bias', whereby personal prejudice can determine who is interviewed and who is not. Factors affecting this prejudice can include language and cultural barriers to easy communication.

Who?

The decision as to who to sample can be influenced by a variety of factors including convenience, avidity, and length of stay. Moreover interviewer bias can also contribute to influencing an objective process subjectively. Because of the possibility of bias and the impossibility of verifying the lack thereof, techniques can be employed to provide a reasonable measure of protection.

The 2010 visitor survey was conducted in only one rest camp in a very large national park, on a non-probability sampling basis. Also known as 'convenience sampling', interviewers approached groups of people who happened to be in the AENP main rest camp during specific hours over a period of a few days. While the method of sampling is widely used, interviewer training and sample framing can reduce the level of bias.

However, there are two specific forms of bias which are expected to exist within the CES (2010) visitor survey data, which may have significantly altered the final outcomes as to the effects of visitor expenditure on the local economy.

The first type of bias which tends to creep into the data collection process is identified by Loomis (2007) as 'avidity bias' whereby people who visit an area being sampled on a regular basis are more likely to be sampled than occasional visitors. In the case of the CES (2010) study, those visitors with whom the AENP is very popular as a destination will be more likely to have been surveyed than those occasional or first-off visitors. Moreover, a more important form of bias is the 'length of stay' bias, whereby people who stay in a sample area over a period of time are more likely to be sampled than those who just visit for the day. Owing to the sourcing of the visitor data from the AENP rest camp, the proposition would suggest that avidity bias is present as it is more likely that overnight visitors would have been sampled than day visitors, who have no need to visit the rest camp at all.

These two forms of bias probably affected the representative nature of the results achieved in the CES (2010) visitor survey. The best assessors can do is to take reasonable precautions. Applying this standard to the CES (2010) assessment, perhaps the assessors could have also collected data in other rest camps or areas of the Park to avoid falling into the avidity and length of stay biases probable in the type of questionnaire administration used by CES (2010).

The CES (2010) employee survey's sample covered 19 businesses and organizations, including the AENP, which was represented by 36 respondents out of a total of 69. This high proportion of AENP respondents could be reasonably expected, owing to the size of the AENP itself. However, the choice of respondents from within each business was

on a convenience basis – depending on the presence of employees when the interviewer was there. In this way bias could definitely be present due to the non-probability of the sampling.

The Connor and Zimmerman (2008) business survey received a total of 52 responses. These were distributed in the towns in the surrounding areas of the AENP, in a relatively even manner, although there was a much higher proportion of businesses interviewed in Addo than in any other town. The assessors cite their method as "stratified to cover different geographical locations around the Park", a probability method to ensure a representative selection of businesses were interviewed.

The CES (2010) business survey was broken down into two primary categories. A list of the service providers to the AENP was categorized according to type. The proportion to which each category made up the total number of service providers (42) to the AENP was used to draw a randomly stratified sample from each category. The other 44 businesses surveyed were of a tourism nature, and were based exclusively within the 50km radius of the AENP boundary. They were chosen based on a non-random 'convenience' sampling basis from 8 towns, so the sample seems to be reasonably representative of the whole area.

Implications for monitoring

Data collection was inconsistent in terms of what was assessed. While Saayman and Saayman (2005) and CES (2010) collected data on visitor spending patterns, Connor and Zimmerman (2008) did not, seeking rather to use AENP income data from tourists as a proxy. This could have been caused by resource constraints but no indication is made in the report as to why they excluded a collection of visitor data in an assessment of the impact of a tourist-premised development.

Moreover, data collection was inconsistent in terms of the formulation of the *tools* of assessment. Where the same factors were assessed in the same manner i.e. the local business survey, it was not possible to view Saayman and Saayman's (2005) questionnaire, meaning that the formulation of each assessment's questionnaire was different.

Formulation of a questionnaire can contribute to response quality, which can influence final results. This makes the case study assessments more difficult to compare, given different tools of assessment.

Differentiation of local spending from out of town spending is a vital consideration in an economic assessment of a visitor-related development relying on visitor expenditure for revenue, which can also have significant indirect effects on the local economy. The CES (2010) visitor survey differentiated respondents according to the country, province, and town of origin, providing a detailed means of ensuring that it was possible to exclude local visitor expenditure from the multiplier analysis. Saayman and Saayman (2005) did not exclude locals from out-of-town visitors, which further complicates attempts at comparison between Saayman and Saayman (2005) and CES (2010).

With data sets obtained, the last step in quantitative assessment in yielding final outcomes is that of data analysis, a discussion which is considered in chapter 5.

Chapter Five

DATA ANALYSIS

Data analysis consists of interpretation of data and the application of theory to that interpretation; of the description of data and trends and an analysis of patterns and relationships. The oftentimes complex tools employed to transform data into assessment outcomes require high standards in their application to ensure legally, objectively and rationally defensible outcomes. This chapter will examine how economic assessments apply method with reference to the case study. Essentially, the questions asked in the chapter are: how is the data translated into results, and is the translation valid according to theory; logically appealing and rational? Moreover, do the different data analysis processes utilized in the three assessments make for comparable outcomes? The purpose of the chapter is to draw conclusions as to possible methods of improving the data analysis process in economic impact assessments.

A brief overview of each assessment will be provided with regards the nature and method of the data analysis undertaken. It will be used as the context in analysing specific features of the data analysis undertaken, which will be used in turn to draw general conclusions and recommendations.

Overview of data analysis methods and process

Saayman and Saayman (2005) utilized three primary stages of data analysis, as indicated in table 5.1. The first was in a desktop study the assessors conducted using readily available AENP expenditure data or assumptions and applying Keynesian multipliers to obtain some impact results. The second was in the formation of figures and findings based on the visitor and business surveys conducted by the same assessors over the 2004 period,

presented primarily in a separate report. The final stage of data analysis involved the translation of the extensive business survey results into a Leontief input-output matrix, yielding technical coefficients for the specific study area. These technical coefficients, or multiplier coefficients, were applied to the AENP expenditure data which yielded some final economic impact figures for the area in question.

Table 5.1: Overview of the Saayman and Saayman (2005) analytical process

	First	Second	Third
Data used	AENP expenditure	Visitor and business survey	AENP expenditure
Analytical tool	Multiplier analysis	Interpretation of results	(Leontief input-output matrix) – output and income multiplier analysis – constructed using business survey data
Purpose	Visitor spending patterns, preliminary analysis of impact	Number of tourists, spend patterns, length of stay, number of beds in region, jobs created by local tourism business	Economic impact figures

Source: Saayman and Saayman (2005)

As indicated in table 5.2, Connor and Zimmerman (2008) dealt with two primary stages of data analysis. The first arose in using the data obtained in the business survey to draw conclusions around the impact of the AENP on the local area. The second derived from the application of adapted multipliers to the AENP expenditure data, yielding some final economic impact figures.

Table 5.2: Overview of the Connor and Zimmerman (2008) analytical process

	First	Second
Data used	Business survey	AENP expenditure data
Analytical tool	Description of data	Adapted national multipliers for construction, employment, and output.
Purpose	Number of tourists, spend patterns, length of stay, number of beds in region, jobs created by local tourism business, etc.	Economic impact figures

Source: Connor and Zimmerman (2008)

The CES (2010) impact report, as indicated in table 5.3, included five primary stages of data analysis. Firstly, the visitor survey data was utilized to draw conclusions regarding the nature and spend profile of visitors to the area. Secondly, the employee survey yielded data which was used to draw conclusions as to the general employment profile of the AENP, supported businesses and expenditure patterns. Thirdly, the business survey yielded data which was analysed in an attempt to compare the results with the previous two surveys (2005 and 2008) and draw conclusions as to the impact of the AENP on the local economy as evidenced through its impact on local business. Fourthly, the data obtained from the AENP and related organisations such as Working for Water, Poverty Alleviation Project and the Concessionaires was analysed to obtain data usable in the final multiplier analysis. The final stage of data analysis utilized a broad range of expenditure data from both the surveys and officially provided figures to attempt to gain some idea of the overall effects of the AENP throughout the economic causal chain. Triangulation of data was carried out to verify results.

Table 5.3: Overview of the CES (2010) analytical process

	First	Second	Third	Fourth	Fifth
Data used	Visitor survey	Employee survey	Business survey	AENP & related organizations' data	Expenditure data from visitor survey, AENP and related organisations
Analytical tool	Interpretation of results	Interpretation of results	Interpretation of results	Interpretation of results	Multiplier analysis
Purpose	Nature & spend profile of visitors	Employment profile of AENP and related business	To compare with 2005 & 2008, and analyze impact of AENP on local economy	Data usable for multiplier analysis	Economic impact figures

Source: CES (2010)

In considering the analytical processes of the three assessments, two primary stages of critical analysis will be utilized. Firstly, the validity of deductions made in rendering the data into outcomes along with a consideration of how those outcomes change if different (or a more appropriate) method is used. Secondly, a detailed critique of the multiplier analysis will be conducted, along with a consideration of how the final economic impact figures might change if different multipliers / data / methods were used.

Differences and validity of deductions made throughout the assessment

This section of the chapter will critically examine whether the three economic impact assessments of the AENP are based on reliable and appropriate data, methods, multipliers, logical arguments and theories. In doing so, the comparative discussion will

profile significant differences and similarities in the particular methods, data sources and analytical procedures adopted, and critically discuss the effects these have on the outcomes and conclusions of the three reports.

The following aspects will be discussed by way of examples to support conclusions drawn:

1. Calculation of annual overnight visitor numbers
2. Derivation and interpretation of rates and revenue
3. Extrapolation of concessionaire turnover
4. Calculation of employment figures

The choice of these examples was based on their comparative ability to provide insight into how differences in calculation method, assumptions made and educated guesses can cause dissimilar results while using similar data sets.

Example 1: calculation of annual overnight visitor numbers

The first example is the derivation of annual overnight accommodation visitor numbers reported in page 23 of CES (2010) and page 31 of Connor and Zimmerman (2008). The Saayman and Saayman (2005) report excludes the analysis but the latter two assessments can be compared – as seen in table 5.4. Connor and Zimmerman (2008) produces a significantly higher visitor estimate per month – as a total of all respondents' estimates – than CES (2010).

Table 5.4: Visitor numbers in local tourism business as reported by Connor and Zimmerman (2008) and CES (2010)

Season (all establishments)	2008	2010
In season monthly total	62 976	16 118
Off season monthly total		7 930

Source: Connor and Zimmerman (2008: 31)and CES (2010: 22).

The reasons for these differences become clear upon a comparative analysis of the data and calculations used by Connor and Zimmerman (2008) and CES (2010).

Connor and Zimmerman (2008)utilized the following calculation:

Extract 5.1: Calculation of tourist numbers in Connor and Zimmerman (2008: 31)

An analysis of economic data reveals that businesses receive 8 512 visitors in off season with an average of 304 per establishment. In peak season this translates into 62 976 visitors, an average of 1 962, a total average of 2 266 per establishment. If multiplied by the total number of establishments (52) this amounts to 117 832 visitors per annum. This is depicted in the table below:

Table: Tourist visitors to businesses

Season	Number of visitors	Average per establishment	Percentage
Monthly in off season	8 512	304	13.4%
Monthly in peak season	62 976	1 962	86.6%
TOTAL	**71 488**	**2 266**	**100%**

In this case the assessors calculate the monthly off season (n=28) average per establishment at 304. Their monthly peak season average per establishment is calculated at 1 962 (n=32). Summing these average monthly totals, the figure (2 266) was multiplied by the *number of establishments* (52) to obtain an *annual* 117 832 visitors to the AENP area. The calculation is clearly incorrect. Firstly, summing averages would not obtain a figure which, if multiplied by a suitable amount, would translate into annual visitors. The seasonal difference should have been multiplied by the number of off and peak months

within the year to estimate the total annual number of visitors. Moreover, an annual figure is not derived by multiplication of a per month average by the number of establishments, but rather the number of months in a year. Consequently, the calculation of annual visitor numbers to local accommodation establishments is incorrect.

The more reliable method of conducting the calculation would be:

average number of visitors in **peak months** multiplied by the **number of peak months** in a year	+	average number of visitors in **off months** multiplied by the **number of off months** in a year	=	x

When applied to the 2008 data, the following figures were obtained:

Table 5.5: Reworking Connor and Zimmerman (2008) visitor numbers.

Season	Number of visitors	Average per establishment	Number of months	Annual average
Monthly in off season	8 512	304	9	2 736
Monthly in peak season	62 976	1 962	3	5 886
TOTAL			**12**	**8 622**

Note: The number of months indicated for off season months and peak months are drawn from a seasonality analysis conducted in the 2010 report in pages 17-18 (CES, 2010).

When the annual average per establishment is multiplied by 52 (the 'total number of establishments'), the annual visitors to the surrounds of the AENP amount to 448 344. The 2010 assessment used the above calculation to determine a total annual visitor figure to the region (see table 6.6 below).

Table 5.6: Annual accommodation visitor numbers for the impact area in 2010 (CES).

Season	Number of visitors	Average per establishment	Number of months	Annual average
Monthly in off season	1 148	72	9	646
Monthly in peak season	2 998	187	3	562
TOTAL			**12**	**1 208**

Source: CES(2010: 23)

So, despite the fact that the two business surveys covered much the same areas and interviewed many of the same businesses, the results were significantly different due to the different data and calculation methods that were used. The Connor and Zimmerman (2008) report estimates roughly 8 times the average annual visitor numbers per business as the CES (2010) report. The CES (2010) total number of estimated visitors to the businesses in the surrounds of the AENP was 99 047, using a total expected number of 82 businesses in the GAENP region, as indicated by the Chairman of the Sunday's River Valley Tourism Association.

The Connor and Zimmerman (2008) study is inconsistent in its view on how many businesses exist in the study area, for on page 20 it is stated that "it appears that approximately 170 facilities exist in and around the AENP" and that "the figure of 170 only includes accommodation facilities" (Connor and Zimmerman, 2008: 21). If, as should be the case, the annual average visitor number that is derived from the data collected is multiplied by the total number of businesses in the area to obtain a visitor number for the area, then the calculation would reflect:

(annual average visitors per business) x (total number of businesses in the area) = (total annual visitors to the area)

8 622 x 170 = 1 465 740

This figure, when compared to the total visitor numbers to the AENP over the same period, (161 855) (Connor and Zimmerman, 2008: 47) and the premise that 88.5% of the

local businesses benefit positively from the AENP (29), raises doubts as to how 1 465 740 people as an annual visitor figure was found to be reasonable. Should the calculation have been done correctly, the data obtained from the business survey for this instance would have been highly questionable in terms of its applicability to the whole sample. This might have called the rest of the collected data into question.

Perhaps one reason that the calculation rendered such implausible outcomes is the low number of respondents that indicated the total visitor numbers received monthly. Between 28 and 32 respondents produced answers for the visitor numbers question, which might point to a reason for the lack of reliability inherent in the data. A similar problem occurred in the CES (2010) survey, where for reasons of double-counting the number of respondents fell to 16. The CES (2010) assessment, however, does indicate that the 99 047 as an estimate of total visitor numbers to the GAENP region is probably overestimated, given the cross reference to visitor survey findings, which indicated that of the day visitors the park, over 60% stayed with friends, family, or in Port Elizabeth. Thus 99 047 as a large proportion of the total day visitors to the AENP (111 441) is probably a significant overestimation.

Connor and Zimmerman (2008) made no provision for double-counting. The calculation of the total number of visitors did not take into consideration the possibility that the visitors may be visiting more than one establishment or engaging in a number of activities during their trip (i.e. they may make use of a restaurant and a B&B). To overcome this problem, the analysis should have been restricted to purely accommodation facilities, which was the case in CES (2010: 23). The lessening of the respondent pool does, however, have certain drawbacks, as evidenced by the overestimation present in the CES (2010) calculation. This is evidenced by CES (2010) unwillingness to commit to outcomes based on the inadequate sample size in the above example. Connor and Zimmerman (2008), however, utilized their questionable figure of 117 832 visitors to the region to conclude that the AENP (with total visitor numbers of 145 595 in 2008 – therefore attracting more visitors than the region as a whole) attracted much of the tourism to the region and businesses do not attract much more than 10-15% of their total visitor figure. The estimated impact, as a result of the errors in the data analysis, is highly questionable.

Example 2: derivation and interpretation of rates and revenue

The second example of data analysis that will be examined is that of the derivation and interpretation of rates offered by tourist businesses both during peak and off season. Connor and Zimmerman (2008) describes the rates per accommodation establishment in the following manner:

Extract 5.2: Connor and Zimmerman (2008) rates and revenue calculation

Rates and Revenue

Rates (n=32) among businesses in the AENP footprint averaged R1073.24 per establishment in off season, and R1648.33 per establishment in peak season. If one multiplies this by the number of beds available in 52 businesses around the AENP (which is 1352), this amounts to an average off season revenue of R1 451 020 and a peak season revenue of R2 228 542 among 52 establishments.

Table: Rates and revenues

Service description	Rate per establishment	Revenue generated
Average rate out of season	R 1 073.24	R1 451 020
Average rate in season	R 1 648.33	R 2 228 542
TOTAL	**R2 721.57**	**R3 679 561**

Source: Connor and Zimmerman (2008: 32)

When compared to the 2010 rates analysis, it is seen that the averages for the 2008 assessment are significantly higher:

Table 5.7: Average rates per target market for local business (CES, 2010)

Category	Off season (R)	Peak season (R)	n

Low budget (R50-R299)	178.50	211.25	10
Medium budget (R300-R699)	429.12	472.19	17
High budget (R700-R5 000)	2,972.50	3,242.50	4
Total average	**676.45**	**754.58**	31

Source: CES (2010: 25)

The number of respondents was fairly similar (36 in the case of 2008, 31 in the case of 2010). There is a considerable discrepancy in average rates (R2721.57 less R676.45 equals a difference of R2 045.12),which points to the unrepresentative nature of the data used in the 2008 assessment: the extent of the disparity between accommodation facilities in the study area is evidenced by the 11 categories to which the Connor and Zimmerman (2008) assessment assigned its sample, from backpackers to B&B's to luxury five star game lodges. For instance, the largest category in the CES (2010) sample is medium budget, from R300 to R699 a night, which included the B&B's interviewed. The place of B&B's as the primary form of accommodation in the AENP surrounds is supported by the Connor and Zimmerman (2008) business survey which interviewed 22 B&B's, which constituted a little under 50% of their total sample.

The diverse nature of the sample did not, however, carry through to the data collection on rates, as is evidenced by the very high average rate per accommodation facility in Connor and Zimmerman (2008).The conclusion is that failing to categorize a highly variable set of data could lead to unrepresentative averages as the basis of analysis. The stratified method of analyzing data which comprises of a broad range of figures is shown to be more representative. The data used in these analyses by Connor and Zimmerman (2008) and CES (2010) were the total numbers of tourism businesses in the surrounds of the AENP combined with the average annual revenue reported by these businesses. The calculation of total revenues from the accommodation facilities in the surrounds of the AENP was attempted by Connor and Zimmerman (2008) using their total bed numbers and average rate per night derived from the previously examined calculation.

The total number of beds is posited by Connor and Zimmerman (2008) to equal "1352" on page 32 and "1300" on page 33. Whichever one it is, they utilized the "total bed

number amount for 52 businesses" to attempt to calculate total revenue for the tourism businesses in the surrounds of the AENP, once again a surprising use of data given the earlier insistence in the report by Connor and Zimmerman (2008) that the total number of tourism businesses is 170. Perhaps, though, the assessors restricted the number to 170 since not all tourism facilities offer accommodation. If that were the case, though, upon what basis was it restricted to 52? Fifty two (52) is merely the number of businesses which were surveyed. However, it would be erroneous to assume that the 52 businesses offer accommodation, as indicated by Connor and Zimmerman (2008)on page 10 – out of the total sample of 52, only 31 businesses offered accommodation.

However it may be, the "1300 beds" in the "52 businesses" was multiplied by the "average annual rates" both in and out of season to yield "total revenue generated" figures for the period as a whole. There are several shortcomings with the calculation.

1. Firstly, as considered above, the rates calculations cannot be viewed as representative of the whole and thus to apply them as such would be erroneous.
2. Secondly, the bed numbers "available in 52 businesses around the AENP" cannot be viewed as totalling the entire region, and an application to the total by the erroneous averages assumed for average annual rates would be invalid.
3. Thirdly, the calculation of multiplying the bed numbers by the average rates is somewhat simplistic. The calculation inherently assumes that all the accommodation facilities were at 100% capacity, which occupancy rate is unusual in off season. Moreover, the 'peak season revenue' and 'off season revenue' generated by the calculation cannot really be referred to as such. All the assessors have really done is multiply an off peak rate which applies *per person per night* to bed numbers, and assumed that that equals total revenue *for the entire off peak season.* In reality, though, the calculation would only render a *daily* revenue for the off season.

Example 3: Extrapolation of concessionaire turnover

The third example to be used is an illustration of how an assumption can render results which are unsubstantiated.

Within the AENP's boundaries there are five concessionaires in partnership with SANP to render services to the primarily high-end tourist market for which the park itself is unable to cater. These luxury game lodges are situated each in their own exclusive section of reserve and for this right of use some pay a monthly rental to the park. They depend for their existence on the unique surrounds offered by the natural environment within the AENP. Thus expenditure by these businesses would be significant to an assessment seeking to determine total economic effect wrought by the park by virtue of its very existence. However, in both Connor and Zimmerman (2008) and CES (2010), there were difficulties in obtaining turnover data from the concessionaires due to the unwillingness of respondents to answer such sensitive business questions. Therefore, owing to the importance of this data in establishing net economic impact of the AENP, both studies sought to extrapolate from that little which was available.

Extract 5.3: Connor and Zimmerman (2008: 46) extrapolation

Concessionary Turnover.
In the absence of concessionary turnover figures being provided by the AENP, an estimate has been performed based upon concessionary rental and turnover rental paid by these businesses. This concessionary rental has been assumed to account for one quarter of the business units operating costs and a gross profit margin of 45% of turnover has been assumed. A market related net profit of 16.5% has been assumed as benchmark and these parameters allow the concessionary turnover to be estimated as per the table below:

Table: AENP and Concessionaire Turnover 2007-2010

	Mar-07	Mar-08	%	Mar-09	Mar-10
Concessionaire Turnover	32,776,510	35,265,473	100	35,582,800	34,537,768
Cost of Sales	14,749,42	15,869,463	45	14,662,260	15,541,996
Gross Profit	18,027,080	19,396,010	55	17,920,540	18,995,772
Operating Costs	12,618,956	13,577,207	38.5	12,544,378	13,297,041
Net Profit	5,408,124	5,818,803	16.5	5,376,162	5,698,732

The combined turnover of the AENP and the concessions within the Park has been calculated by excluding the concession rental and concession turnover rental, as these are treated as internal payments which would amount to a duplication of economic impact which has no actual external effect.

Extract 5.4: CES (2010:28) extrapolation:

It was calculated by using the AENP data on rental and % of turnover payments made to the park by the concessionaires which amounted to R3.9 million and was 17% higher than the 2007/8 payments. The concessionary rental payments were assumed to amount to one quarter of the business operating costs and a gross profit margin of 45% of turnover was assumed. A market related net profit of 16.5% has been assumed as the benchmark and these parameters allow the concessionary turnover to be estimated as per the table below.

Table 5.4:

Concessionaire's Turnover	2007/8	2008/9
Cost of sales	R 14,749,429	R 17,256,832
Gross Profit	R 18,027,080	R 21,091,684
Total Turnover	**R 32,776,509**	**R 38,348,516**
Operating Costs	R 12,618,956	R 14,764,179
Net Profit	R 5,408,124	R 6,327,505

CES (2010)modelled its formula on the Connor and Zimmerman (2008: 46) calculation, which used concessionary rental figures as a point of departure – these being included in the AENP financials, which are readily accessible. While the concessionary rental figures are no doubt accurate, the readiness with which the assessors have assumed and extrapolated results there from is clear.

It is seen that the final turnover figures for the concessionaires have been determined using three primary assumptions. These assumptions might make for the appearance of a result at the end of the calculation, but they are completely unsubstantiated. The process fails to take into account that some concessionaires do not pay rental, and does not account for the very different business models each lodge operates under. The extent of the *effect* of these assumptions, however, is only apparent when the multiplier analysis conducted by each assessment is considered. For example:

CES (2010) utilized the concessionaire turnover figure extrapolated from the above calculation as an addition to "total AENP income from tourists" (41) to obtain the figure "combined visitor spend". For some idea of the significance of the concessionaire turnover in making up the final figure, a little over 50% of combined visitor spend originated from the extrapolated concessionaire turnover. The combined visitor spend figure was the subject of multiplier application, rendering it 2.5 times larger than before. Thus the entire 'total income impact analysis' of the CES (2010) calculation rests, to a large degree, on the assumptions used to make extrapolations on the concessionaire turnover figures. The difficulty with such assumptions is that they could easily be assumed otherwise by a different group of assessors, yielding different economic impact results. This is illustrated below:

Should the assumption that concessionary rental costs account for one quarter of total cost of sales change to one third of total cost of sales, the figures from the 2008 and 2009 studies would change to:

Table 5.8: Effect of change in assumption on concessionaire turnover as one third

Concessionaire's Turnover	2007/8 (R)	**2007/8**(R)	2008/9 (R)	**2008/9**(R)
Cost of sales	14,749,400	12,278,900	17,256,800	14,366,300
Gross Profit	18,027,000	15,007,500	21,091,700	17,558,800
Total Turnover	**32,776,500**	**27,286,400**	**38,348,500**	**31,925,100**
Operating Costs	12,619,000	10,505,300	14,764,200	12,291,200
Net Profit	5,408,000	4,502,300	6,327,500	5,267,700

Note: The changed assumptions and outcomes are indicated by the black columns.

There is thus a difference of R5,490,065 total turnover in Connor and Zimmerman (2008) and R6,423,376 in CES (2010). 'Combined visitor spend' is, in Connor and Zimmerman (2008) and CES (2010), inclusive of the 'total concessionaire turnover' figure. To illustrate how the above example of changing one of the assumptions could alter the final figure, the difference in the turnover figures reached above will be multiplied out using the economic multipliers of the respective studies. This will show by how much a simple change in assumption can fundamentally affect outcomes achieved in the data analysis process:

Table 5.9: Effect of change in concessionaire turnover on final economic impact figures

Income	Multiplier	2007/8 (R)	2007/8 (R)	2008/9 (R)	2008/9 (R)
Direct Spend		64,399,000	58,909,000	70,100,000	63,677,000
Indirect Spend	1.19	76,635,000	70,102,000	83,419,000	75,775,000
Induced Spend	0.35	26,822,000	20,618,000	24,535,000	22,287,000
Total Income Impact		167,856,000	149,629,000	178,055,000	161,739,000

Note: Direct spend in each instance would be (total visitor expenditure derived from the AENP tourism income) + (total concessionaire turnover). Thus for the adjusted figures the 'differences' are subtracted from the total direct spend and then multiply it out to obtain a final figure from which the effects of multipliers on differences caused by unsubstantiated assumptions can be illustrated (CES, 2010: 40).

There is a R18 227 297 difference in income impact in Connor and Zimmerman (2008), by changing one of the assumptions upon which the concessionaire turnover rests. Likewise, in CES (2010), there is a R16 315 375 difference in income impact between the changed concessionaire turnover calculation assumption and that used by assessors. This is an 11% difference in Connor and Zimmerman (2008), and a 9.16% difference in CES (2010).

Interestingly enough, one of the CES (2010) concessionaires did provide a turnover figure of R3.5 million. There are a total of five concessionaires and while they are of varying sizes, assuming a total turnover of between R3.5 and R6 million for each one would render a figure very close to that of the extrapolated figures.

Example 4: Calculation of employment figures

Employment figures are often touted as justification for developmental decisions. Because of this, how these figures are calculated is of interest and given the case study and ability to do comparative analysis at hand, it will be useful to analyse this process.

It is clear that Connor and Zimmerman (2008)estimated significantly more employees in the businesses in the surrounds of the AENP than Saayman and Saayman (2005). The 'total employees' for each survey were obtained by simply summing the respondents' answers. The 'employees per business' is simply an average of that total.

Table 5.10: Differences in total jobs created

	Saayman and Saayman (2005)	Connor and Zimmerman (2008)	CES (2010)
Number of businesses	114	52	41
Total employees	466	557	665
Employees per business	4.09	10.71	16.21
Total jobs created	**1398**	**4819.5**	

Source: Connor and Zimmerman (2008: 26), CES (2010: 35)

What should be noted at this juncture is that the table above is Connor's (2008) method of presenting the data. Both CES (2010) and Saayman and Saayman (2005) presented the data differently, allowing for differences in average employee numbers for different *types* of business. Lodges employ substantially more people than backpackers, and thus to combine all the categories of tourist business together in the data analysis process would be erroneous as it would definitely bias the averages in an upwards direction.

CES (2010) explained its significantly higher employees per business average as the result of a biased sample of primarily larger tourism businesses. Thus both Saayman and Saayman (2005) and CES (2010) sought to avoid erroneous averages based on upwardly biased samples. Connor and Zimmerman (2008), however, did not manage to do this. Their calculation method, which resulted in the figure of 4 819.5 jobs created was derived as a result of multiplying the average employees per business figure by 150 (the number of businesses in the area) to reach a total of 1606.5 jobs in the area. The figure was further added to by assuming "that for every one job created in the tourist industry, a further two positions are created incrementally" (Connor and Zimmerman, 2008: 26). Thus 1606.5 multiplied by three equals the figure of 4819.5. It is assumed that the statement by Connor and Zimmerman (2008)on page 26 that "these 150 businesses employ 1606.5 employees each, based on an average number of employees of 10.71 per establishment" is a simple mistake. The error committed by Connor and Zimmerman (2008) in analyzing the data was to assume averages of a wide variety of hospitality

industries catering for very different markets and numbers and thus requiring very different employee numbers. This is evidenced by the table presented on page 27 of the report by Connor and Zimmerman (2008), where the averages for each type of establishment were presented separately and compared:

Table 5.11: Employee numbers per establishment type

Type	Saayman and Saayman (2005: 29)		**Current survey 2008**	
	Number	**Average no. of employees**	**Number**	**Average no. of employees**
B&B and guesthouses	31	6.2	24	8.9
Lodges & game reserves	20	19.4	3	39
Hotel	1	15	2	11
Tours	8	2.25	2	4
Restaurants	8	5.5	4	14.7
Shops	11	7.8	7	4.3
Backpackers			2	9
Hunting			4	7
Other (festival, taxidermy)			2	7.5
NGO			1	0.1
Servicing			1	3

Source: Connor and Zimmerman (2008: 27)

It is seen how remarkably different the number of employees each establishment requires – ranging from 3 to 39 – and thus to simply add them together and use that average to determine total employee numbers over a total of 150 businesses seems to be an invalid assumption. The difference in sample sizes for lodges and game reserves' employee numbers does shed some light on the very high average reached by Connor and Zimmerman (2008). In Saayman and Saayman (2005), 20 lodges and game reserves

interviewed yielded an average of 19.4 employees per establishment. In Connor and Zimmerman (2008) just 3 lodges and game reserves were interviewed which yielded an average of 39 employees.

The following section shall deal with the derivation of the impact figures achieved as a result of the economic impact assessment process. Specifically, those impact figures arising as a result of the multiplier method of analysis.

Multiplier analysis

There are three primary issues to be discussed considered in the context of the case study when considering the merits or lack thereof of an impact assessment process utilizing the multiplier as a means of determining total economic impact given direct expenditure figures.

1. Derivation of the multipliers to be used in the assessment process.
2. Application of the multipliers to the data at hand.
3. Types of multipliers used

There were three primary purposes that Saayman and Saayman (2005), Connor and Zimmerman (2008) and CES (2010) sought to accomplish through the use of economic multipliers. The first was to determine what economic impact visitor expenditure has on the local economy. The second and third goals were only addressed by the Connor and Zimmerman (2008) and CES (2010) studies: these were to calculate the total economic impact caused within the study area by both construction activity and operational expenditure of the AENP.

Visitor expenditure

Saayman and Saayman (2005)

Saayman and Saayman (2005) utilized income and output multipliers derived from an input-output table construction using data obtained from a detailed survey of the area. Unfortunately the calculations and derivations of the input-output table are unable to be adequately critiqued due to their absence from the final report. Both the non-singular

condition (which must be valid before the inverse of a matrix can be determined) and the Hawkins-Simon Stability Condition (which tests the economic validity of the technical coefficients)were satisfied. The input-output table consisted of eight sectors, and thus constituted a 'partial' input-output model. It is not possible to say whether the process followed in rendering the multipliers was valid as the process is absent. However, the theory and explanation of procedure is sound. Saayman and Saayman (2005)sought to produce economic multipliers unique to the specific economic context of the study region (the 30km radius of the AENP) and specifically applicable to the expenditure data available, in sharp contrast with Connor and Zimmerman (2008) and CES (2010).

Saayman and Saayman (2005) conducted a visitor survey in 2004 which yielded detailed expenditure while in the impact area. The visitor expenditure amount was divided into two groups to allow more thorough derivation of economic impact. In the first instance, total visitors were calculated based on total nights spent in Park chalets – these are assumed to represent the higher-income visitors. In the second instance, total visitors were calculated based on total nights spent in Park camping grounds – these are assumed to represent the higher-income visitor to the area. The multiplier effects for each category of visitor were expected to differ. The final calculation reflects thus (Saayman and Saayman, 2005: 27):

(total number of chalet nights x total expenditure per chalet guest) x (M)

+

(total number of camping nights x total expenditure per camping night) x (M)

= total economic impact on the region from visitor expenditure.

This method of calculating total visitor numbers would discount that expenditure brought into the region as a result of visitors staying outside the Park in local tourism businesses. Furthermore, provision is not made to exclude local visitor spending, something which is crucial in deriving economic impacts of this nature, to ensure that

only that economic impact which arises because of the Park's existence is calculated, and nothing else (Crompton, 1999). This is expected to have increased the total estimate of economic impact.

Saayman and Saayman (2005) also conducted a desktop study which attempted to calculate total visitor expenditure based on tourism expenditure data from the 2004 visitor survey conducted in conjunction with economic multipliers. The report does not indicate where these multipliers were sourced from, which range from a conservative 0.45 Keynesian multiplier to an extravagant 2.2 output multiplier. A sensitivity analysis does provide some measure with which to test the veracity of the final economic impact calculations, as it lays down parameters for possible error in application of incorrect multipliers.

Connor and Zimmerman (2008)

As previously stated, Connor and Zimmerman (2008) did not calculate the economic impact arising from visitor expenditure, but rather used the sum of tourism income as recorded in the AENP financials together with concessionaire turnover, as a proxy for visitor expenditure.

CES (2010)

CES (2010) used two primary methods of calculating the economic impact arising from visitors to the area. The first was a visitor survey in which data on expenditure was used and the second was to take the sum of tourism income as recorded in the AENP financials together with concessionaire turnover, as a proxy for visitor expenditure. The dual focus allowed for the comparing of results to test the reasonability thereof. The derivation of the data, however, is not of issue with regards the technique employed. The problems arise with the derivation and application of the multipliers.

Problems with derivation

The first issue is the source from which CES (2010) derived its multipliers. The report (CES, 2010: 39-40) states that the "2005 multipliers" were used, albeit adjusted from 1.54 to 2 given the larger impact area of 50km as opposed to 30km in 2005. Saayman and

Saayman (2005), however, utilized output multipliers of 1.18 and 1.2 from chalet and camp expenditure, and income multipliers of 0.404 and 0.3 for chalet and camp expenditure. It is not clear how CES (2010) arrived at the conclusion that 1.54 was the multiplier used by Saayman and Saayman (2005).

It is suggested that CES (2010) misinterpreted the Saayman and Saayman (2005) multipliers, and averaged the income multipliers (0.404+0.3) for induced spend (0.35), and the output multipliers (1.18+1.2) for indirect spend (1.19):

Table 5.12: Economic impact of visitor expenditure

Income	Multiplier	2004 (R millions)	2008/9 (R millions)
Direct spend		39.5	37.3
Indirect spend	1.19	47	44.4
Induced spend	0.35	13.8	13.1
Total income impact		100.3	94.8

Source: CES (2010: 40)

The difference between using multipliers of 1.54 (above) and 1.2 (below) is evident and makes a significant change in the estimation of overall income impact of the AENP.

Table 5.13: Difference in economic impact using different multipliers

Income	Multiplier	2004 (R millions)	2008/9 (R millions)
Direct spend		39.5	37.3
Indirect & induced	1.2	47.4	44.8
Total income impact		86.9	82.1

Problems with application

The second issue relates to the use of the multipliers. Direct spend was multiplied by 1.19 to achieve the indirect spend impact on the region. Furthermore, however, the direct spend was multiplied by 0.35 to achieve the induced spend impact on the region. Now this is correct, it is simply another means of saying direct spend x (M) for indirect and induced economic effects. However, what is unclear is why these indirect and induced spend figures were summed *along with the direct spend figure* to achieve 'total income impact', as seen in table 5.11 above. In multiplier theory, the original direct expenditure figure is multiplied by the economic multiplier to achieve total economic impact. The multiplied figure is not in addition summed with the original direct expenditure figure (Coughlin and Mandelbaum, 1991: 20-21).

The effect of the error is a gross inflation in total economic impact, from R60.5 million in table 5.14 below to R100.3 million in table 5.11 above.

Table 5.14: Correct method of performing multiplier analysis

Income	Multiplier	2008/9 (R millions)
Direct Spend	1.54	39.3
Total Income Impact		60.6

The 'total income impact' multipliers used in CES (2010) are already *very* high, given that these were increased from 1.54 to 2.0 to account for the larger geographical area (Saayman derived income multipliers of 0.404 and 0.3 for the AENP expenditure data). Given the additional summing with the direct expenditure, the result is a significant overestimation of the total income effect of the AENP on the local economy, a result which casts serious doubt on the integrity of the findings of the report as a whole.

Construction activities

The effects of the considerable construction expenditure by both the AENP and related projects and private tourism enterprise on both output and employment of the region was carried out by Connor and Zimmerman (2008) and CES (2010). The data utilized was that provided by the AENP and related projects for construction and expansion expenditure. The task was to assess what effects the expenditure had further down the causal chain within the local socioeconomic context of the AENP (50km radius) impact area.

Both studies used economic multipliers generated by the IDC for use at a national level, namely, 2.46 on output and 5.6 on employment. However, the application by Connor and Zimmerman (2008) of the national output multiplier locally was inappropriate because of leakages from the local economy. Thus both Connor and Zimmerman (2008) and CES (2010) assumed that12% of construction expenditure in the Eastern Cape would leak to the other provinces. Furthermore, when considering the AENP precincts, it was decided by Connor and Zimmerman (2008) that only 17.5% of construction expenditure in a 50km radius of the AENP would leak to the broader economy. While this may be true, derivations of final economic impact are reliant on a process which was not justified and thus open to criticism.

The Connor and Zimmerman (2008) employment multiplier was highly questionable, being derived from total employment figures and the level of expenditure as: 29.58 on a national level and 20.12 on an AENP level. Comparing these multipliers with the IDC official national employment multipliers for construction expenditure, (6.02 adjusted for inflation) it is seen that they are grossly overestimated.

> *"In this instance we have been provided with the employment figures and the level of expenditure and have therefore been able to calculate the multiplier at 29.58 times, which is extremely high and indicates that labour intensive techniques are being used to effect the work packages. This would be in accordance with the mandate of the AENP and the financiers such as the World Bank and the Expanded Public Works Programme."*
>
> (Connor and Zimmerman, 2008: 51-52)

CES (2010) steered away from calculating their own employment multipliers, accepting that there are limitations surrounding the calculation of total employment in the AENP precinct (such as uncertainty around the number of tourism businesses in the region). National IDC multipliers were utilized, adjusted for inflation, to calculate total regional employment impact, local employment impact, and national employment impact of the AENP and related projects' construction expenditure. Shortfalls in the process include the fact that there are no reasons given for the multipliers chosen for regional and local impacts, other than that they are slightly smaller than national level official multipliers. To offset this problem, however, CES (2010) conducted a sensitivity analysis on the calculation using varying multipliers from 1.2 to 2.46, as used in Connor and Zimmerman (2008). The results, differing by as much as R20 million, means that there is a significant difference in final economic impact should the construction multipliers vary.

Operating Expenditure of the AENP

Saayman and Saayman (2005) conducted a desktop study on the AENP financials of 2003 which indicated AENP expenditure for that financial period. The multipliers used were of a Keynesian, household and output nature, and ranged from 0.45 to 2.2. A sensitivity analysis was used to compare AENP expenditure in operations using the multipliers derived from the self-constructed input-output table. Saayman and Saayman (2005) yielded both income and output effects of the AENP's operational expenditure.

Connor and Zimmerman (2008) utilized IDC output multipliers on AENP operational expenditure data. They were modified to a 'local' level with no reference to justification for that adjustment. Thus the outcomes of the output multiplier process in the Connor and Zimmerman (2008)operational expenditure calculations must be treated with some caution. Moreover, Connor and Zimmerman (2008) utilized the unsupported dictum that 'every one tourist job creates two additional jobs' multiplied by the number of jobs that the AENP records as having provided. The rather arbitrary figure, despite apparently 'widespread' acceptance, finds no justification for use in Connor and Zimmerman (2008).

CES (2010) utilized the same IDC output multipliers as Connor and Zimmerman (2008), and compared employment creation using the 'two jobs for everyone'. While the employment multiplier was discounted as having no solid foundation, there was no justification for the degree to which national multipliers were 'shrunk' to become applicable to a local level.

Types of multipliers used

The far more useful income multiplier in terms of accurately predicting social change as a result of increased direct expenditure was only used in the Saayman and Saayman (2005) and CES (2010) assessments, as applied to visitor expenditure. The income measure of economic impact seeks to determine the net effect on personal incomes throughout the study area as a result of direct, indirect and induced expenditure. Thus, given a one unit increase in expenditure, the income multiplier can determine how much of that expenditure is retained by the local community as income (Crompton, 1999:24).

The three assessments utilized output multipliers as a primary means of analysis. Output multipliers calculate the likely increase in output throughout the chain of production, given a one unit increase in visitor expenditure. They relate increased direct expenditure to the resultant increase in the turnover of local business. The increased output might be useful in determining the effect of one industry on another, but provides no real information as to the expected impact on local incomes that an event or project might have (Crompton, 1999: 24).

The primary differences between the two multipliers and what figures they render are clear in the differences between output multipliers applied to the Saayman and Saayman (2005)expenditure data and their counterparts, income multipliers:

Table 5.15: Difference between income and output multipliers in Saayman and Saayman (2005)

Category	Total spending	Output effect	Income effect
Chalet	R33 452 141	R39 473 526	R13 514 665
Camp	R6 042 507	R7 251 008	R1 812 752
Park	R23 312 635	R25 877 025	R10 024 433
Total	**R56 764 782**	**R72 601 559**	**R25 351 850**

(Saayman and Saayman, 2005: 28)

The difference in size between the income and output effects upon application to expenditure data is in the region of R50 million. That is 200% the size of the income effect of the total expenditure. The actual output effect is 3x the size of the income effect. The danger with these figures lies in the interpretation thereof. As Crompton (2006: 74) so eloquently put it: "the use of sales rather than income multipliers probably means that inaccurate, exaggerated, spurious inferences will be drawn from the data, as stakeholders are uninformed as to the differences between sales and personal-income measures".

The employment multipliers which Connor and Zimmerman (2008) and CES (2010) sought to use are difficult to derive reliably, without bias or spurious assumptions tainting the process. There are three primary concerns with the use and interpretation of employment multipliers.

1. The first of these relates to the lack of differentiation between the employment measure of economic impact and the part time positions of employment created. Thus should no clear mention of the difference be made in the reporting stage of the economic impact process, decision-makers could quite easily come to incorrect assumptions regarding the tenure of the employment positions created. This is recognized by CES (2010) as a limitation to the results, but not Connor and Zimmerman (2008).

2. The second is that while an increase in direct, indirect and induced expenditure may increase the amount of *work* available in the local economy, this will not necessarily increase the number of *employment* opportunities offered. Employees may be under-utilized and the resulting increase in work of an increase in expenditure may simply render them fully utilized – essentially they are not at maximum efficiency in terms of workload but greater pressure could improve efficiency per employee.
3. The third issue arises from the possibility that employment opportunities may be filled by residents from outside the impact area. This will negate the positive effect on employment the increase in expenditure might have had on the impact area. This is particularly important for consideration in the Addo studies, where high-level hospitality staff are often imported to fill positions for which locals are not skilled enough.

Failure to take due cognizance of the above concerns with regards the use of employment multipliers means the final results from the use of employment multipliers are questionable.

Comparability of data analysis

The tools of analysis utilized by the three case study assessments were similar in nature. Multipliers were used to translate collected expenditure data into figures reflecting the full extent of the economic benefit to the entire economic causal chain. However, there are differences in approach adopted by each assessment which raise problems of comparability. Saayman and Saayman (2005) utilized a 30km impact radius and formulated their multipliers using a Leontief partial input-output matrix and the collected data from the business survey. Connor and Zimmerman (2008) utilized a 50km impact radius and adapted various national IDC multipliers to 'fit' to the local context. CES (2010) also utilized a 50km impact radius and in some cases utilized 'modified' national IDC multipliers and in others adapted the Saayman and Saayman (2005) multipliers. The primary difficulties faced in adopting the same tools of analysis were that assumptions in derivation of multipliers were not explained, and in some cases the calculations used in

obtaining multipliers were simply excluded from the report and not made available to the other assessors. The primary multipliers adopted are seen below in table 5.16:

Table 5.16: Multipliers used

	Saayman and Saayman (2005: 26)	Connor and Zimmerman (2008: 46-53)	CES (2010: 38-48)
Visitor expenditure			
Income	0.3 – 0.404	n/a	1.54 – 2.0
Output	1.8 - 2.0	n/a	n/a
Construction			
Output	n/a	2.03	1.9
Employment	n/a	20.12	5.6
AENP Operating Expenditure			
Output	n/a	1.1	1.1

The end result is three very different approaches to the implementation and sourcing of multipliers which raises difficulties in comparability of the results over time. Some indicators and methods of analysis were simply not considered by some of the assessors, and where they were the same, tools of analysis and the differing definitions of the indicators resulted in largely incomparable results. Despite CES (2010) inclusion of sensitivity analyses and utilization of a broad range of multipliers to obtain some form of comparison with prior reports, seen below, the results are still large incomparable when taking into account how the multipliers were derived and applied.

Table 5.17: Comparison of final impact figures (directly copied from CES (2010: 49))

#	Impact	2004/5	2007/8	2008/9
1	Direct visitor spending effect from all visitors using data from visitor surveys	39.5		36.8
2	Direct visitor spending effect from all non-local visitors using data from visitor surveys			32.7
3	Total Income Effect from Visitor Spend (using Visitor Surveys for all visitors and the multipliers from the 2005 study)	100.3		94.8
4	Total Income Effect from Visitor Spend (using Visitor Surveys that include local tourists and the multipliers higher multipliers from this 2010 study)	118.5		112
5	Direct Income Effect from visitor spending (from turnover data)		64.4	70.1
6	Total Income Effect from visitor spend (from turnover and using the multipliers from 2005 study)		167.8	178.1
7	Total Income Effect from visitor spend (from turnover and using the multipliers from this 2010 study)		209.3	210.3
8	Direct Construction Expenditure – 15% leakage (**excluding** private tourism business spending)		45.3	17.9
9	Direct Construction Expenditure – 15% leakage (**including** private tourism business spending)		45.3	69.6
10	Total Construction Expenditure Impact for SA using 2007/8 study multipliers (excluding private sector spending)		156.6	61.8
11	Total Construction Expenditure Impact using 2010 study's medium multipliers (excluding private sector spending)		81.5	55.7
12	Total Construction Expenditure Impact using 2010 study's low multipliers		54.3	43.1
13	Total Operational Expenditure Impact		118.0	210.2
14	Total National Tax Paid		113.2	113.2 (105 deflated)
15	Estimated Municipal Revenue Paid		1.55	1.75 (1.6 deflated)

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This chapter has highlighted the possible effects on the integrity and validity of economic assessment outcomes should there be data availability constraints, differences in results due to differences in data (and multipliers) used and calculation errors (due to time/resource constraints).

Chapter Six

APPROPRIATENESS OF APPROACH AND METHODS

The purpose of this chapter is to address the use of the highly quantitative economic multiplier analysis as a means to assess impacts in developmental contexts where distributive as well as net change is important. This will be accomplished through a critical analysis of how the case study SEIAs addressed the specific concerns raised in the 2003 SEA and whether they actually had the ability to do so.

Context

One of the World Bank's mandates is to provide a source of funding to aid in development (Zoellick, 2010). However, given the need to ensure qualitative as well as quantitative change in any developmental project, there exist certain guidelines within which the use of funds must take place. Moreover certain research conditions regarding the viability of development must be fulfilled. In the case of the expansion of the AENP, these concerns were focused on the South African and indeed Eastern Cape context, of a high, rural and poverty stricken population (TOR, GAENP). Any expansion plans would have to be considered in light of the broader context and the effects thereon to ensure, in the first instance, that the development would have an overall positive socioeconomic effect on the region, and secondly to ensure that any negative socioeconomic effects the Park's expansion could have would be effectively monitored and mitigated(TOR, GAENP). Given its conservation orientation, there was no concern over potential negative environmental effects of the AENP expansion plans.

SANP exists to conserve South Africa's biodiversity. As previously discussed, the proposed expansion of AENP with World Bank funding warranted a decision-making process properly informed as to the environmental, social and economic effects of the

expansion. Thus SANP commissioned an SEA from various consultants including CES, private consultants, and Sandy and Mzasi Consulting. The terms of reference for this SEA originated directly from the World Bank (TOR, GAENP):

The objectives of the SEA[5] were:

a) To consolidate and evaluate the current biological and physical information for both the terrestrial and aquatic environments to facilitate the development of a systematic and strategic conservation plan for the greater Addo Elephant National Park.

b) Assess the potential environmental impact of the proposed GANP development.

c) Assess the potential social, economic and institutional viability of GANP.

d) Draft a full project proposal to GEF.

(As quoted from the original TOR for the GAENP Conservation Project – CES, 2003)

Issues of concern

The 2003 SEA, conducted by Coastal and Environmental Services, highlighted two primary issues of concern surrounding the expansion of the park, namely the opportunity cost and the socially disruptive resettlement issues arising as a result of the expansion onto what was previously agricultural land.

At the time of the SEA (CES, 2001), the World Bank Safeguard Policies included a Draft Operational Policy 4.12 of 6 March 2001 (World Bank, 2001), which spelt out both policy objectives and required measures in those projects which received funding. The gist of these requirements was that resettlement should be avoided wherever possible, but if needed, the following considerations should be given:

[5] It should be noted at this juncture that SANP was appointed to administer the GEF grant for information collection and co-ordination of all consultants associated with the project.

- Meaningful consultation and participation of the affected individuals throughout the process, including planning, implementation and monitoring stages.

- Suitable assistance should be provided to the affected individuals, and particular attention should be paid to vulnerable social groups affected during the process.

Monitoring processes

Given the World Bank guidelines regarding development in projects it funds, SANP had to take action to monitor and mitigate the socioeconomic costs of its expansion of the AENP. Indeed the World Bank TOR for the SEA included the requirement to "develop a process for monitoring the ongoing relationship between the local communities and the GANP conservation initiative", although no specific regard was given to resettlement in the original World Bank TOR (TOR GAENP: 6). As Finsterbusch (1983: 31) says, a good relationship and channel of communication between interested and affected parties and the management of the project seeks to ensure that information regarding actual impacts is acted upon, either in mitigation or support thereof. In line with the mandate given in the World Bank TOR for the SEA, a recommended monitoring process was drawn up by specialist consultants, Andrew and Fabricius (2003: 3), in response to the need to monitor the delicate relationship between the GAENP and the local communities. The purpose of the monitoring would be for both management and stakeholders to evaluate progress, identify problems and adapt strategies to suit changing circumstances.

Goals of the monitoring processes

What was not clear at the time of the compilation of the social monitoring programme was what the precise goals for the process would be. This made it difficult for the specialists involved in creating this programme to know exactly *what* to monitor, given the wide range of stakeholders and possible relationships with the GAENP that existed (Andrew and Fabricius, 2003: 9). Attempting to address this lack of direction from SANP, Andrew and Fabricius (2003) drew up a recommended example of a monitoring process that could be followed addressing a range of proposed goals. The primary thrust

of these objectives and the recommended means of ensuring they were successfully achieved was to ensure that the negative effects of the resettlement processes caused by the GAENP's expansion plans were minimized so far as possible. The broader goal was: "for the GAENP to develop strong and positive long-term relationships and partnerships with the major stakeholders in and around the Park" (Andrew and Fabricius, 2003: 9). In this context, all relationships and effects of the Park on the surrounding socioeconomic context were considered important, and yet it was the issue of resettlement which really motivated the specialist's recommendations regarding the nature of the proposed monitoring programme (Andrew and Fabricius, 2003: 9).

After the submission of the SEA to the World Bank by SANP, funding was granted and the expansion plans began to be realized, albeit with some changes due to the findings of CES in the 2003 SEA.

Monitoring of resettlement

The recommendations of the SEA with regards the resettlement issue resulted in the creation of the Resettlement Policy Framework and Action Plan – a policy designed to mitigate the negative consequences resettlement could have on displaced farmworkers. The policy was hailed as 'best practice' by the World Bank and the implementation thereof is monitored by the Resettlement Working Group, which sits on a quarterly basis (SANP, 2010). Moreover, other monitoring programmes surrounding the resettlement issue are ongoing, to ensure that a useful flow of information about the pertinent issues is available to decision-makers on a policy level.

Monitoring of socioeconomic impact of AENP on local communities

However, the negative resettlement issues in terms of social cohesion and ruptured lifestyles are only one aspect of a highly complex socioeconomic situation. Also of considerable importance are the qualitative positive effects that the AENP has on surrounding communities and whether they in reality live up to what SANP promised in its project proposal to the GEF:

> "The proposed GAENP will be able to support almost all eco-tourism experiences sought after by tourists – local and international – therefore fulfilling the aim of enhancing the socio-economic benefits of the region. This will not only allow the park to generate income, but will have major economic spin-offs for local communities, the Eastern Cape and South Africa, as more international revenue is injected into the country, creating more employment and wealth" (CES, 2003: 2)

The claim by SANP that the expanded AENP would be a significant driver of tourism, enhancing the socioeconomic benefits of the region and contributing in a 'major economic' way to local communities would have to be validated, primarily to the GEF but also the South African political and social spheres. For this reason the three socioeconomic impact assessments forming the case study were undertaken as a monitoring exercise, to ascertain to what extent the AENP was contributing to the local economy and surrounding communities.

The form the assessments took has been considered in the previous chapters. The analysis now turns to answering the question of whether this form was appropriate given the socioeconomic context that they were seeking to measure, particularly the negative aspects relating to the AENP's expansion as highlighted in the 2003 SEA. The costs of expansion will be considered below, followed by an analysis of whether what the SEIAs achieved was helpful as part an ongoing monitoring exercise to manage and mitigate these costs.

The costs of expansion

Opportunity cost

Opportunity cost is one of the most notable costs of which economists are aware–it is the underlying consideration that always takes place when contemplating a particular course of action. In the case of assessments it is all those benefits that would be forthcoming if an event was not held or a project was not considered for development.

For a government project, it is either the benefit that would be forthcoming from an alternative development or the benefit to the taxpayer from retaining the tax money for personal consumption. This is a very important consideration, as seen by the DEA's guidelines (Van Zyl *et al.* 2005) for the process of economic impact assessment in the Western Cape, South Africa (see Figure 1 in Appendix B).

One of the primary issues raised by the 2003 SEA were the possible negative effects that the expansion of the AENP would have on the highly profitable dairy industry which flourishes along the south-western and south-eastern borders of the Park. The public participation process as part of the SEA yielded very negative responses concerning the proposed expansion of the Park into the dairy areas. Given the high employment and revenue that the dairy industry generates, the SEA recommended that the AENP expansion avoid dairy areas, advice that was heeded by SANP - the plans to integrate the farming area in the Alexandria district into the GAENP were forestalled by the inherent profitability of this area and thus the vast opportunity cost of turning the dairy farms into a conservation area (CES, 2003).

The other opportunity cost with expansion was that the AENP would displace livestock farming (CES, 2003). Antrobus (2003) conducted a specialist study as part of the 2003 SEA of the economic benefits of livestock farming, using income from livestock farmed based on grazing carrying capacities for each hectare of the different vegetations within the AENP. The findings were that, including dairy farming, gross income from agricultural use of the AENP land would amount to R66 million (Antrobus, 2003: 14). Excluding dairy farming, gross income would equal R33m. When compared with the economic benefits of game farming as considered elsewhere in the SEA (CES, 2003), agricultural use of the land was economically speaking a better alternative.

Retaining the surrounding farmland for agricultural purposes *could* have yielded higher rates of income and employment generation than conversion into conservation premised tourism use. Indeed this possibility forestalled the expansion onto citrus and dairy land and combined with Antrobus (2003) report on livestock farming provided good reason to seriously consider the alternatives for expansion of the AENP. This concern is especially

relevant given that World Bank funding of R550 million was being injected into the Park's expansion, justified in that tourism would uplift the local communities. However, could livestock farming not be more uplifting than tourism?

The case study assessments made little reference to the opportunity cost of the Park's expansion. Neither Saayman and Saayman (2005) nor Connor and Zimmerman (2008) mentioned opportunity cost. CES (2010) did make reference to the opportunity cost of the Park's expansion in the following manner:

> "A study by Prof G. Antrobus of the livestock farms in the Addo area that was undertaken in 2003 as part of the Strategic Environmental Assessment of the proposed Greater Addo Elephant National Park (CES, 2003) found that the income from livestock farming (excluding the dairy & cultivation farms in the Alexandria area) was R33 million per annum while income from the Park and Tourism was estimated at R24 million per annum. However, this appears to be an underestimate of the income from tourism as the income from the Park alone in 2003 was more than R24 million. So the income from the concessionaires and private sector tourism was not included in this estimate. When all sources of tourism income are included, the economic income derived from the Park is greater than that which could be earned from livestock farming (excluding dairy farming)."
>
> (CES, 2010: 53)

CES's (2010) consideration of this primary opportunity cost is more than either Saayman and Saayman (2005) or Connor and Zimmerman (2008) provided, yielding comparable figures in terms of net incomes per annum – the Park and tourism combined was valued at anywhere between R94 and R210 million depending on the multipliers used. However, they seem to have misrepresented Antrobus' (2003) findings in that Antrobus (2003) did not specifically estimate agriculture in relation to AENP or tourism in general. Rather, his focus was exclusively on commercial livestock farming, the results of which were compared with another study conducted on game farming. The results of the comparison were that agricultural purposes are favourable for use of the land (Antrobus, 2003: 14)):

> "Given the assumptions and desktop nature of both comparisons, the results appear to favour commercial livestock farming rather than a conversion to game across the whole area".

The three assessments largely overlooked consideration of opportunity cost. This is perturbing given the emphasis placed on the AENP and tourism in general as the better or preferred driver of economic growth in rural Eastern Cape. Admittedly, tourism does contribute 11% to Eastern Cape GDP and the sectoral determination for minimum wage in the sector is R1981.48 while agriculture is R1316.69 (Department of Labour, 2010).

However, this cannot discount the benefits that agriculture does have. It contributes 2.5% to total South African GDP and 8% to total employment. It is one of the most labour intensive industries despite low wages, offering employment to 796 806 people in South Africa, more than half of that number in full time positions (Statistics South Africa, 2007: 19). The case study SEIAs failure to mention the agricultural possibilities of the AENP land and thus opportunity costs of its expansion effectively inflates the benefits of the AENP, as there is no shadow scenario with which to compare it. For example, the assessment of employment generated directly and indirectly by the Park is termed 'employment creation'. However, because employment of a similar area of livestock or other agricultural use of the land was not used as a comparison, the figures of how much employment AENP generates cannot be seen as referring to 'creation' of jobs, but rather creation of *tourism* opportunities. A detailed analysis of the benefits of agricultural as opposed to tourism employment is out of the scope of this research. It is sufficient to note that there was reasonable cause to include a relative comparison of the AENP with a similar area under livestock farming to ensure that opportunity cost was taken into account in assessing the socioeconomic impact of the Park. Empty farms as a result of AENP expansion have an impact on the cost of that expansion, something that was almost completely overlooked by the SEIAs.

Costs and benefits of resettlement

The Basic Conditions of Employment Act (1997), South Africa, allows for deductions of up to 20% from minimum wage should accommodation and food be provided to

farmworkers by employers. Therefore payment in kind, particularly accommodation, is a great part of the benefit which farmworkers and their families receive from employment in agriculture. Unfortunately, though, the security of tenure of farmworkers is dependent on the ownership of the farm, which is generally in the hands of one or a few individuals. This asymmetry of power between owner and employee can lead to severe disruption of social and economic circumstances of farmworkers at the decision of the farmer.

The SEA identified the primary negative social impact of the proposed expansion of the AENP as being the highly contentious issue of resettlement. To expand, the AENP would of necessity extend its borders over land that had hitherto been occupied by farmers and farmworkers. By the time the SIA specialist study and the stakeholder engagement process which formed part of the SEA (CES, 2003) took place, the park had already started expanding and this had resulted in the forced resettlement of farmworkers to neighbouring towns without any compensation for loss of income or homes:

> "Farm workers are being neglected - in many cases they are just left behind in the farm without being informed about their rights. The agreement between the buyer (SANP) and the seller (farmer) is not discussed with farmworkers. That only creates a conflict between the SANP and the farmworkers" Public Participation Process: (CES, 2003)

Because farms generally only became available for sale one by one, SANP had been buying them as and when they came onto the market, in some cases expropriating or forcing sale of the land. There was definite incentive to maintain this approach to expansion, as purchasing farms one by one seemed to be the only viable method of obtaining additional land. This approach was fuelled by concerns raised in the Institutional Review section of CES (2001: 46): "Although some farmers in the Alexandria district are willing to sell, there is a list of forty (40) who are unwilling".

SANP objectives of expansion clashed directly with maintaining a structured principled approach to resettlement, as is recommended by social specialists: "it is the consensus of most international practitioners and scholars in the field of resettlement that the problems and complexities inherent in the resettlement process are such that, unless these

problems are consciously planned for, and unless resettlement is deliberately planned and budgeted for as an upfront development exercise, rather than an unfortunate side-effect of a development project, the result will be inevitable failure" (De Wet, 2003: 3). However, resettlement was not planned for by SANP. Indeed, the consideration of resettlement as a possible impact of the Park's expansion was not even included on the terms of reference provided by SANP for the SEA to the consultants:

> "There was no TOR as Resettlement was not in the original list of tasks drawn up by SANP. CES argued that it should be included because of its importance, and so it was added afterwards to the list of tasks" (De Wet, 2003: 3).

Because of the delicate nature of a social system, any effect thereon can have far-reaching consequences on the affected individuals. The movement of people then, is a regrettable consequence of many developmental projects as it results in the complete disruption of social systems. The uninformed approach that SANP adopted towards the expansion of the AENP could and did have serious negative impacts on the social environment in which it operated. The seriousness of the potential consequences is emphasized by the outcomes of similar scenarios in other developmental projects and the specific inclusion in World Bank policy of guidelines for the management of delicate social situations.

World Bank guidelines regarding resettlement seek to safeguard the distinction between *displacement* and *resettlement,* and ensure the latter happens rather than the former (World Bank, 2001). *Displacement* is to remove something from its natural environment. In the case of people, displacement is what occurred during the building of the Gariep and Van der Kloof dams on the Orange River in the 1960s, where affected workers were moved from their farms to the then homeland of Qwaqwa. These workers were, in the words of De Wet (2001), "left to fend for themselves". Similar problems have occurred in conservation premised projects in parks within the EC province. For example the Baviaanskloof Reserve, which saw farms being bought and the farmworkers displaced, to their social and economic hardship: "The people of Colesky Farm were told by an official

of the Department of Environmental Affairs and Tourism that if they did not move, their animals would be shot" (Neethling, 2001: 3).

Resettlement, on the other hand, is, as De Wet (2001:3) says: "not simply a matter of picking people up at one place and putting them down in another. Successful resettlement involves the genuine participation of the affected people in the decision-making and planning processes about their future, as well as the provision of the necessary institutional development, capacity building and economic support to enable people to sustain themselves in a socially stable and economically self-sufficient situation after resettlement."

The World Bank funding grant resulted in the loss of livelihoods and places of residence for farmworker communities. The farmers themselves did not suffer a tangible cost from the sale of their land, unless it was a forced eviction. They were paid market-related prices for their farms and were thus recompensed for their loss of employment and place of residence. Despite the implementation of the Resettlement Action Plan which was aimed at ensuring farmworkers benefitted from the AENP through employment opportunities and housing, there are still serious socioeconomic concerns around the resettlement process: firstly, farmworkers are poorly equipped to access the opportunities afforded by the tourism sector. Unskilled labour with little or no higher education and hospitality training makes it difficult for agricultural labourers to benefit from the AENP. Moreover, where farmworkers did obtain employment with Working for Water or one of the Park's Poverty Alleviation Plans, it was on a short term employment or contract basis, for a maximum of two years. If one person in a household is in a full time position with the AENP, then the rest of the household no longer qualifies for employment (CES, 2003). The negatively affected socioeconomic nature of some of the local people due to resettlement is the second primary cost which SANP sought to mitigate.

Given the costs of the expansion of the AENP considered above, how well did the TOR mandate method and approach suitable for the monitoring and mitigation thereof?

Terms of reference and balance between cost and benefit consideration

The TOR for the SEIAs did not specifically refer to either of the two primary costs of the expansion. Opportunity cost and the contentious resettlement issues were simply not mentioned by SANP, the commissioning body. This is surprising, given the intended nature of the SEIAs to 'monitor the effect of the AENP on local communities'. The only direct reference to cost of the AENP in the TOR was in the request that consultants measure the 'impact' of the Park. *Impact* can be defined as 'to influence strongly'. Influence is by its definition a neutral term – that is – it can refer to both negative and positive effects. Thus 'impact' assessment denotes a form of analysis which takes into account both cost *and* benefit consideration. Indeed all three of the case study assessments recognized their goal as being the determination of *impact*, in some form or another: Saayman and Saayman (2005: 4) sought to determine the '**socio-economic impact** of the AENP'. Connor and Zimmerman (2008: 11) sought to 'generate information what would depict the **social and economic impact** of eco-tourism businesses within a 50km radius of the AENP'. CES (2010: 1-2) sought to 'estimate the **impact** of eco-tourism business development within an average 50km radius of the AENP and determine the **socio-economic costs and benefits** experienced by the region'. Economic multiplier analysis was the primary tool used by the SEIAs in their measurement of 'socioeconomic impact'. Was the multiplier analysis useful in achieving this aim?

Multiplier analysis

All three IAs rendered the primary outcome of their research as economic impact figures – numbers indicating to what extent output, incomes or employment increased in the impact area as a result of the AENP's existence. Multiplier analysis is an economic method founded on the idea that all sectors of the economy are interlinked. Thus impacts on one sector will have knock-on or ripple effects on other sectors of the economy. As previously considered, there are three primary forms of impact – direct, indirect, and induced. The 'multiplier' is a number denoting the extent to which the primary impact has secondary effects. Thus different types of economic activity will have varied impacts, given the same economy. For example, the output multiplier for construction as

formulated by the IDC is larger than that of tourism. In effect, this means that construction has a greater ability to mobilize economic activity than tourism. In the context of the AENP, the direct effect would be the primary expenditure in the local economy by either the Park itself or visitors to the area. The indirect effect of the AENP would be the increased expenditure of businesses further down the supply chain as a result of the increase in demand for commodities directly caused by the AENP. This demand would include visitors to the area and their purchases as well as the AENP's consumption of commodities. The 'second-round spending' (Snowball, 2008) will in turn have filter-down effects as the entire supply chain is affected by the AENP and its original direct expenditure. The induced effect of the AENP would be the increased economic activity as a result of any increased income by any agent either directly or indirectly affected by the existence of the AENP.

Thus the economic multipliers as applied to the AENP by the SEIAs did, in effect, measure to what extent the local economy was mobilized by the existence of the AENP. When the Saayman and Saayman (2005: 28) SEIA found that the 'total income impact' of the AENP was R25 351 850, essentially it found that incomes in the local area had increased by that amount. The output multipliers applied measured to what extent output, or sales, increased. How does the multiplier analysis as applied to the AENP answer the pressing questions of opportunity cost and distributive issues of resettlement highlighted as important in the SEA (CES, 2003)?

Usefulness in assessment of the distribution of benefit

The multiplier analysis is aimed at generating net economic benefit or cost of a specific project or developmental decision. It does not specifically take notice of social consequences, except where household income is included as a variable, and its pure focus on economic indicators makes its 'socioeconomic' use limited in nature. Moreover, when considering the purpose of the SEIAs as monitoring the costs and benefits accruing to local communities, the multiplier analysis will merely provide figures indicating total *increase* in economic activity, or incomes, rather than the *distribution* of that income or *who* benefits from it. The entire R50 million could simply be accruing to one individual, and

the method used would be unable to tell you that the distribution of wealth in the region remained unchanged because of the AENP.

Usefulness in the assessment of opportunity cost

In addition, while providing interesting feedback as to the extent of the linkages within the local economy, multiplier analysis is ill-suited to measure opportunity cost. The case study assessments would have had to complete a multiplier analysis for a similar impact area using agricultural expenditure generated by a geographical land mass equal to that of the AENP in order to ensure that opportunity cost, or the alternatives for development, were taken into account. In short, the method cannot inform as to a 'with AENP' or 'without AENP' scenario.

Usefulness in small impact areas

As previously considered in Chapter Five, Saayman and Saayman (2005) managed to derive multipliers for the regional economy of the AENP using survey data and a Leontief input-output matrix. However, Connor and Zimmerman (2008) and CES (2010), using a different impact area, had to *adapt* national multipliers to make them 'fit' the impact area. Reduction in size of the multiplier is necessary given the much smaller geographical and economic size of the AENP's impact area as compared to South Africa as a whole. However, the question must be asked: can results as to local economic effect of the AENP be taken seriously when the multipliers used were derived in a national context where the linkages and extent thereof are completely different?

The multiplier analysis, while especially useful nationally as a means of determining the net economic effect of large industries in relation to one another, or as a means of determining the net national benefit of an injection of money into a certain sector, does have its limitations. The difficulty with derivation of multipliers in a small regional economy makes application thereof and the results achieved questionable, especially when there is no reasoning provided for the extent to which leakage is expected to increase given the reduction in impact area. Even when multipliers are derived from locally sourced data, the often limited nature of that data or the sample size will introduce

error into the final figure. Thus multiplier analysis in a small economy is at best an uncertain science.

The inadequacy of multiplier outcomes to yield results useful in assessing *distributive socioeconomic impact* as opposed to *net economic benefit* is compounded in the case study by the use of sales multipliers rather than income multipliers, which do at least provide some form of qualitative assessment.

Cost vs. benefit in the case study

In short, all three IAs, while mentioning the socioeconomic constraints of the Eastern Cape and the need to discern the impact of the AENP on the local communities, focused largely on the positive impacts. Throughout the Saayman and Saayman (2005) assessment there is no mention of socioeconomic costs arising as a result of the Park. The end conclusion of the assessment is that the AENP "has a significant impact, both in terms of production and employment, on the local area" (Saayman and Saayman, 2005: 32). Connor and Zimmerman (2008) did recognize that the AENP could have socioeconomic costs attached to its expansion as well as socioeconomic benefits. Departing from their primary method of data collection which constituted a business survey, several additional qualitative interviews were conducted. These are referred to on page 30 of the report, and while only forming a small part of the greater assessment, which still focused primarily on business growth and AENP expenditure multiplied into the economy, it does provide some idea of the kinds of external costs of the AENP. CES (2010) set aside five pages of the 55 page report for a "comparison of the socio-economic costs and benefits arising as a result of the AENP" (CES, 2010: 50-54). In this section of the report, the findings of the three surveys as well as additional data provided by the AENP, related projects, and a series of qualitative interviews, was included in a comparative qualitative discussion in terms of the negative or positive effects on the local economy and society. However, despite mentioning the costs, they were merely listed as possible negatives around the expansion of the AENP – the focus being primarily on the issue of land use change from agriculture to conservation / tourism and the resulting negative effects on farm workers and communities, as families are uprooted and resettled. The costs were not quantified or analyzed in detail, in sharp comparison to the economic benefits of the AENP, which

were quantified by five data collection processes and analyzed by three different multiplier analyses.

Implications for the usefulness of the SEIAs

Were the case study assessment outcomes useful in meeting the outcomes required by the SEA specialist report recommending a specific monitoring approach to the expansion of the AENP? The IAs provided a form of 'benefit estimation', which does allow for quantification of the positive economic effect the AENP is having on the surrounding region. The limitations in this approach are, however, clear. Costs are largely excluded from analysis and where considered, as in the 2010 assessment, no attempt is made at quantification or valuation of the social *and* economic costs the AENP has. Moreover, even the benefit estimation undertaken through means of multiplier analysis provides no idea of the distributive impact of the AENP on the surrounding communities. Thus there is no clarity on whether those who suffer the costs have been able to compensate for these losses through accessing benefits. As indicated by the 2001 census (Stats SA, 2001), the local community in the surrounds of the AENP has a high unemployment rate, a low education rate, and a large wealth disparity with few owning much and many owning little. The AENP could impact on this 'community' by increasing the wealth of the wealthy or by offering employment to the educated few. What is more relevant as socioeconomic impact, however, is how the AENP affected the *distribution* of wealth in the area and the employment rate of the very poor. These are developmental rather than merely quantitative outcomes. Little informative benefit can be derived from any of the assessments as to the real tangible distributional effect the AENP is having on the local communities. Reference is made to how much employment is being created, but even then the distribution, duration and value of this employment creation is uncertain. Employee wages are discussed, but very little can be drawn from this information other than to discern that, on the whole, hospitality workers earn more than their agricultural counterparts.

Moreover, the only point at which the contentious resettlement issue was mentioned was in CES (2010), and then only briefly. The significance of disruption in social cohesion due to resettlement is such that it merits consideration whether or not these displaced

farmworkers actually receive compensation from the AENP's existence in terms of employment. While this issue was covered in the monitoring consultancy work done on the Resettlement Action Plan (RAP) implemented by SANP, there is no union between the assessment of socioeconomic impact and assessment of the efficacy of the RAP.

Thus it must be concluded that the SEIA's are of little real use to the World Bank as a measure of how the AENP is impacting on the surrounding community – this despite GEF having funded and required the assessments. They are also inadequate as a means of informing possible SANP management practices to better their socioeconomic impact on the surrounding communities.

Who is to blame?

The imbalance between cost and benefit analysis and the failure to consider the distributive implications of the AENP on the local communities is primarily as a result of the TOR. Terms of reference for each study did indicate a recommendation of strong economic bent to be applied to the research direction – indeed, SANP insisted on the use of multiplier analyses to quantify the 'socioeconomic impact' of the AENP. Considering the costs of the expansion of the AENP by the 2003 SEA, the TOR *should,* rightly, have contained reference to these costs and specifically directed the assessors to monitor these issues. However, they did not. Fault for this omission cannot rest entirely with SANP, however. As the tender document for the TOR suggests, "...in drawing up their proposals, consultants are invited to comment on the TORs and suggest improvements." Consultants have a better understanding of the issues and how to assess them, and some responsibility for the omission of cost analysis in the monitoring SEIAs must rest with them. They were, after all, commissioned to measure 'socioeconomic impact' and ended up measuring economic benefit. Part of the problem with the cost v benefit imbalance, therefore, rests with SANP, part with the assessors, and part with the tool of analysis – namely, the economic multiplier.

Who actually benefits from the SEIA monitoring process?

SANP stands to gain from the assessments. As CES (2010) says, echoing the TOR provided by SANP,

> "SANP are striving to maintain and measure the socio-economic impact of the developing park and to gain additional insight into the actual benefits of conservation interventions that accrue to the local people and economies, whether this be through job creation, improving sustainable livelihoods and skills development or through economic modelling" (CES, 2010: 1)

A partially state funded parastatal organisation, SANP has to validate the requirement of government funding for the fulfilment of its mandate. Conservation ranks low on the list of political priorities relative to socioeconomic disparities and the very emotional issue of land ownership and thus in order to legitimize their actions, SANP needed to ensure that its expansion of the AENP was seen as socially beneficial. Moreover, the World Bank expected positive developmental outcomes to its funding grant. Reports which highlight the contribution of the AENP to the surrounding communities can only be beneficial to the furtherance of SANP aims in expansion of its operations, unfounded though they may be. The three assessments commissioned by SANP as part of the monitoring and mitigation of 'socioeconomic' consequences arising from the expansion of the AENP fulfil this objective, providing large 'magic numbers' as to how many millions AENP is bringing into the local economy.

While the mandating body and indeed funder for the IAs was the World Bank (CES, 2010: 1), SANP was tasked with overseeing the consultants contracted to generate the informative requirement for development. In this position, SANP would have the ability to influence the terms of reference provided to the assessors as a guide for their assessment. Given that the TOR mandated methods of analysis which would be more inclined to produce favourable results for SANP reputation as a socially beneficial organization, there is real danger that bias entered the outcomes of the assessment process. It is inappropriate that the oversight body commissioning the assessments is the same body which stands to gain or lose from the outcomes. This is echoed by the CES SEA (2003) which held that the monitoring should be of an independent nature (Andrew and Fabricius, 2003).

Concluding discussion

This conclusion is not an attack on the intentions of SANP in conducting the assessments. Rather, it is a critical analysis on the suitability of the multiplier analysis as a tool in the monitoring and mitigation of socioeconomic consequences. The shape of the SEIA as a short-run information gathering process as to (in this case) economic aspects and effects of the AENP utilizing specifically multiplier analyses is not well suited to the in-depth socioeconomic consideration needed to inform policy making in developmental projects where especially minority groups are at risk. To test the socioeconomic impact of the AENP on the surrounding communities is a vast task involving the consideration of a number of diverse and often dispersed variables. It would be difficult to provide anything like a comprehensive report on the full spectrum of relevant factors. The methods and approach are simply unsuited to form, collect and analyse data collection processes which will be of relevance to informing as to the positive *and* negative aspects of the AENP's expansion. This has been seen over three assessments, which although modelled on each other to a large degree, nonetheless formed a largely economic benefit assessment of the AENP rather than a 'socioeconomic impact assessment'. This term in itself is misleading, creating the perception that SANP did make provision for the consideration of the social and economic costs and benefits arising from the expansion of their park. The IAs are rather more like economic impact assessments, although as Vanclay (2004) says, it is not so much what they are termed that defines them, but what they seek to do. And what these IAs have sought to do seems to be the object of some fracture in understanding between SANP and the World Bank.

The World Bank required the assessments as a means of ensuring that the full socioeconomic situation remains under review to ensure that its funding is not utilized in a manner which brings about avoidable harm. SANP mandated the specific TOR and stands to benefit from the glowing reports provided as to the effect the AENP is having on the local economy**.**

It would seem that De Wet's (2003: 13) fear has been realized:

"On the other side of the balance sheet, is the diverse and dispersed nature of the affected people. This raises the danger, discussed under the various guiding principles considered above, that genuine consultation and participation will become a casualty in the process"

Chapter Seven

CONCLUSIONS AND RECOMMENDATIONS

The conservation premised expansion of the Addo Elephant National Park (AENP) had to be justified by socioeconomic means to both funders and local sociopolitical bystanders alike in order to mitigate the concerns raised in the 2003 Strategic Environmental Assessment. The ongoing monitoring process was formed in the context of resettlement and concerns around the distributive benefit of the AENP, and was intended to report on the socioeconomic impact of the AENP on the local communities. South African National Parks (SANP) was appointed to oversee the unfolding of the process into three socioeconomic impact assessments over the space of five years, a context which has provided scope for analysis of the three research objectives, namely:

1. A critical comparative analysis of how economic impact assessment methods are applied within the case study context;
2. An analysis of the usefulness of quantitatively grounded socioeconomic impact assessments (SEIA) with a strong focus on economic multiplier analysis to the assessment of development where distributive as well as net change is important; and
3. A consideration of the outcomes of the case study assessments in terms of their usefulness as monitoring exercises informing the management of AENP's ongoing expansion and its effects. In short, were the three assessments comparable in a manner useful to an ongoing monitoring process, and how can the outcomes of this analysis contribute to future monitoring processes?

The primary conclusions, considerations and critique of the case study will be expounded below, along with some recommendations.

Conclusions on economic method

Approach

The approach adopted in identifying and measuring the relevant factors of assessment can be fundamentally affected by the terms of reference provided by the commissioning body. That said, the case study has indicated how repeat exercises in the same study context, measuring the same factors, can still result in different outcomes. This is illustrated by SANP strong influence on the formation of the AENP socioeconomic impact assessment terms of reference (TOR), which while mandating assessment of the same indicators by means of economic multiplier analysis, nonetheless resulted in dissimilar perceptions in terms of approach and different formulations of data collection processes. Moreover, while the description, interpretation and transformation of the data sets into outcomes was accomplished using the same economic method – multiplier analysis – the derivation, application and understanding of this process differed considerably from assessment to assessment. Thus while the commissioning body plays an influential role in facilitating the direction of the process, the assessors will still play a primary role in deciding on the final nature of the approach, data collection, and data analysis. This is by virtue of that fact that *perceptions* of the same TOR will differ from assessor to assessor, depending on the training and experience of the assessors and time and budgetary constraints.

Data collection

Data collection in the case study occurred primarily by means of survey, although each group of assessors differed in their approach to the formulation and application of questionnaires, a change which had effects on the response rates to questions and thus the quality of data. The conclusion is that length of questionnaire can contribute to non-response if the questions take too long to answer, or are difficult to answer because of a high level of expected detail. The length can thus have a direct impact on the quality of responses and thus the overall integrity of the data collection process. 'Channelling' the thought process of the respondent can aid in smoothing over the answering process, leading to shorter response times and overall length of the interview process. However,

the danger with this approach is that answers given could reflect reality as perceived by the assessors rather than the respondents.

A further conclusion is that the questionnaire administration process can fundamentally affect the outcome of the data collection process as a whole. Even should the data collection process be flawless in its approach and the formation of its actual technical vehicle, poor implementation methods will undo that methodological stride towards objectivity by introducing various forms of bias into the data which are hard to eradicate once present. The overcoming of the bias and the search for objectivity are fuelled by proper consideration of theoretical method in formulating administrative techniques. Specifically, in the case of visitor surveys, there is a trade-off between levels of response rates and reliability of expenditure figures provided by the respondents.

Monitoring implications

The critical comparative analysis of the case study assessments has shown that quantitative impact assessment, particularly in its economic form, is an inexact science. The difference in approaches, methods of data collection, data analysis and outcomes within the case study assessments has underlined this point. Despite similar terms of reference, the three groups of assessors perceived and responded to the research questions in slightly different ways, differences which found illustration in the subtly dissimilar approach to assessment which each used. Even if conducted reliably based on inclusive terms of reference (which the case study assessments were not – there were numerous errors in calculation and problems with inadequate sample size, etc.) economic impact assessment cannot provide definitive answers.

The difficulty in achieving consistency in impact assessment method, process and results raises important implications for the use of impact assessments as a means to monitor a socioeconomic context over time. As assessments forming part of a monitoring exercise, the AENP IAs do not contribute to an objective, transparent, repeatable process capable of informing the mitigation and management of the impacts of the AENP. Perceptions around what indicators to focus on, tools of analysis used, and final outcomes achieved all differed extensively from one assessment to the next. The final outcome is three

assessments examining the economic impact of the AENP producing three different sets of results which are difficult to comparatively interpret in terms of long term trends. A brief discussion of why this was the case will help in drawing conclusions as to how to better the monitoring process in future.

Discussion on monitoring conclusions

Firstly, the methodology and tools used were in many cases inaccessible by the later groups of assessors – Saayman and Saayman (2005) declined to make available their business questionnaire and the workings of their self-formulated Leontief input-output matrix were not included in the final report. Moreover, where assumptions or educated guesses made throughout the process aided in achieving final outcomes, these were in many cases unexplained. This made following earlier method and utilizing the same tools of analysis extremely difficult. In short, the understanding that assessors had towards the analytical process was not made clear to later assessors, creating gaps of knowledge which later assessors filled with their own understanding and perceptions surrounding the problems. It turned into, as Krawetz (1987: 15) said of other monitoring processes, "a convoluted, chaotic and messy process", unsuitable for the purpose of monitoring. The real problem is that of a lack of consistency and relates to an inherent lack of systemization of the monitoring process. Thus the following is recommended to improve future monitoring processes:

1. That the same consultancy group is maintained throughout the monitoring process from design of the monitoring to implementation to eliminate the different perceptions that each group of assessors bring which result in dissimilar approaches, methods and tools of analyses and thus incomparable results.
2. The first study completed in a monitoring exercise should describe the baseline and provide detailed instructions for later studies in terms of methods and approach used and indicators to be measured. Later studies can include additional information and indicators but should always complete at least a comparative analysis with the baseline study to ensure the possibility of viewing the long-term trends through comparability of results.

3. Should it be impossible to maintain the same group of assessors for each stage of the monitoring process, then the commissioning body should bear the primary responsibility of ensuring that data, data collection tools, methods of analyses and all calculations and workings be maintained for use by later assessors.
4. Where assumptions or educated guesses are made in reaching final results, they should be clearly explained and enunciated to ensure that all the qualifications, limitations and possible differences in final outcomes given different assumptions are understood by later assessors seeking to replicate the process.
5. A comprehensive assessment of the broader socioeconomic context at the time of each study should be conducted, in order to fully inform decision-makers in management as to the social environment in which the project / development is operating in.

Essentially, good channels of communication between not only interested and affected parties and management but also between past and present assessors and the commissioning body will aid in achieving a monitoring process which is useful, reliable and defensible.

Multiplier conclusion and recommendations

Multiplier analysis was the primary tool utilized in the case study SEIAs. Multiplier analysis, despite its ability to provide insight into the nature of the linkage in a specifically defined economy, and inform on sales, income and employment effects of an impact, has three primary limitations, as indicated in the case study:

1. Firstly, with specific regard to output or sales multipliers, multiplier analysis is unsuitable for the assessment of impact where *distribution* of that impact is an important factor for consideration, as in a developmental context. This is due to the scope of an assessment of this nature – focusing narrowly on the economic effect of the impact on the supply chain as a whole. It can provide no real insight into how those increased sales and incomes will be distributed, or whether or not those members of society benefitting from employment opportunities are those who are negatively affected by the development.

2. The inability of the multiplier analysis to measure both benefits and costs is a result of the design of the method as a means to indicate the extent of linkages within a clearly defined economy. It is an inherent structural problem which renders the multiplier analysis unable to reliably inform on a context where costs are prevalent and important as benefits.
3. It is difficult to apply multipliers reliably to small impact areas. This limitation arises because of a lack of adequate data in a small localized economy sufficient for derivation thereof or need to adapt multipliers derived for another study context – a practice which in essence assumes similarity in the nature of the complex linkages making up an economy.

For these reasons economic impact assessment utilizing multiplier analysis is not recommended as a tool of analysis in projects where the distribution of impacts and developmental effect thereof are of primary importance rather than a view of the net economic benefit or cost. Moreover, where multiplier analysis is applied in an assessment seeking to measure impact rather than purely economic benefit, it is recommended that it be supplemented by additional methods and techniques to ensure social and economic cost are also adequately assessed. To consider opportunity cost, multiplier analysis can be applied to the benefits of the alternative scenario for development.

Broader conclusions and implications

SANP, responsible for crafting the TOR which mandated a tool of analysis unsuitable to monitoring the socioeconomic consequences of the AENP's expansions, essentially reduced the outcomes of the monitoring process to inconsequential rather vague considerations as to its general economic benefit on the surrounding area in terms of employment and incomes. While Connor and Zimmerman (2008), Saayman and Saayman (2005) and CES (2010) all stated their objectives as identifying and measuring the socioeconomic impact of the AENP on the local communities, their outcomes did not actually make any significant inferences from their analysis of the data. To state that something has a significant impact on the local economy, employment or incomes, is not especially difficult to do. What is more difficult and perhaps more relevant would be to have measured the benefits and costs that arose from the AENP against other similar

developmental options to provide a relative comparative measure for a project which is otherwise very difficult to quantify in terms of impact. However, did SANP fully understand the nature of the socioeconomic context and that what they were requesting was inadequate as tools of analysis and monitoring? As Chapter 6 has indicated, SANP stood to benefit from the positive reports as to the effects of its positive economic investment into the local economy. The clear direction towards multiplier analysis and strong focus on the economic benefit in the TOR illustrates their intention. However, once directed, SANP showed little concern as to the methodological integrity of the process and outcomes; specifically the calculations used which were often flawed yielding incorrect results as shown in Chapter 5. And this highlights the real flaw in the assessment process – namely that there exists an imbalance of and between power and expertise in the parties to the assessment process.

Imbalances between power and expertise

SANP, the commissioning body, had the power to define the TOR, pay the assessors, and oversee the entire assessment process. The assessors, while left with little power, are nonetheless endowed with the necessary expertise to understand the assessment process and adapt and apply it to the specific AENP context. The asymmetries between power and expertise resulted in the following breakdowns in the assessment process:

1. Firstly, SANP was for the purposes of the SEIAs able to define the 'local communities' that the AENP impacts on as the 'local economy'. This definition of affected community resulted in the assessment process failing to take into account the distribution of the economic benefit from the AENP and a disregard for cost analysis, omissions which effectively reduce the SEIA as a means of information gathering to a shallow process from its potential as an in-depth informer on complex socioeconomic indicators. The problem here is not that there was no scoping phase to identify the relevant factors for measurement, but rather that SANP did not allow for monitoring of the relevant issues through its definition of the TOR.
2. Secondly, while SANP was appointed to oversee the assessment process, its knowledge of the detailed methods of analysis and the intricacies of the

calculations used and outcomes achieved was limited in that it would be unable to pick up any deficiencies in the process of the assessors' creating. Essentially, its power to act as an oversight process for the assessments was limited by the lack of expertise. Assessors can opt for easier methods of analysis, shortcuts in calculations, and uneducated assumptions to reach final results, and suffer no consequences because the commissioning body is simply not possessed of the requisite understanding of the process to identify the errors and call the assessors to account. Thus SANP responsibility is limited by its lack of information.

3. Thirdly, the empowered party, in this case SANP, is responsible for payment of the assessors and is thus in essence the client of the consultants. This makes the responsibility of the assessors in reliably informing the commissioning body more difficult. For instance, the scope of the TOR in measuring the relevant indicators in the case study was inadequate. The assessors have the responsibility to inform the commissioning body should additional factors require consideration, or the TOR be insufficient for the assessment at hand. However, excepting CES (2010), no attempt was made to consider the factors raised in the 2003 SEA scoping phase, and none of the consultants asked SANP to amend the TOR to enable them to better measure the relevant indicators. In short, the nature of the client-consultant relationship can bias the assessment process due to incentive to please the client.

The case study illustrates the danger of the imbalances in power and expertise that exist between assessor and the commissioning body and shows how each party has the responsibility to ensure that reliable information sourcing is not compromised to the benefit of a party's personal interests. The difficulty with the need for responsibility is that neither party has real incentive to maintain a structured assessment process taking into account the relevant factors and methods of assessment. Consultants do have incentive to maintain an unbiased approach to ensure their reputation remains untarnished. However, the case study has indicated how the perception of good process and calculation technique can be created while still pandering towards the client's personal interests.

One means of ensuring greater integrity of the process is to finalize, or clarify, the terminology issues. As reviewed in Chapter Two, there is some debate about what, exactly, to call different impact assessments. The conclusions drawn there were that whether an assessment is called a SIA or a SEIA or an economic impact assessment makes little difference, so long as the relevant social and/or economic impacts arising from the proposed development are taken into consideration. However, introductions in the three assessments refer to the desire SANP has to ensure that its continued development has a positive link with human need – that no trade-off exists between environmental welfare and human welfare. As Van Zyl (2010) says, while the naming of the assessment may have no actual bearing on what is considered, perhaps it is the very looseness in terminology which contributes to the vagaries of the assessment process. A clear understanding from both parties as to what economic, social and socioeconomic impact assessment entail and clearly demarcated processes in terms of scoping and establishing baseline projections could aid in ensuring the consistency of the indicators chosen for measurement in each study despite the ever-changing context of each assessment.

However, no matter how the indicators chosen for measurement, the methods applied and the results achieved are able to present a reasonably comprehensive picture of the important factors for consideration, the ultimate discretion as to how to use that information rests in the hands of the decision-maker. The decision-makers can, despite glowing or terrifying outcomes of the impact assessment process alike, choose to ignore the recommendations and findings of the assessment process. Moreover, one of the primary concerns raised in the literature review is that social impact assessment is limited to a tool of analysis or even worse – a ticked box in a process of approval – rather than an expression of a deeper underlying philosophy towards more distributive development and the need for sustainability. The case study has confirmed this fear, that the role that impact assessment plays in the broader context of development as a whole is, inevitably, dependent on the powers-that-be, whether it is the assessors, the commissioning body or the decision-makers. Asymmetries of expertise and power between those who decide and those who recommend therefore create breaks between interested and affected parties and those responsible for the protection of their wellbeing.

In summary, it may be concluded that the number of variables, dangers of bias, and breakdowns in communication between the parties to the process combined with difficulties in application of method, resource constraints, and uncertainties around what to assess and how, given the ever-changing nature of social contexts, makes socioeconomic impact assessment difficult to perfect. However, great strides forward can be made by establishing levels of certainty, objectivity, and continuity in the process, and the establishment of a perception of impact assessment as an inherently constructive part of a broader underlying philosophy of sustainable development.

Appendix A

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Appendix B

TABLES AND FIGURES

Table B.1: Overview of the cost-benefit process

Step	Activity
1	Specification of purpose of the CBA and specification of project boundaries within which the analysis is to be conducted.
2	Identification of all impacts (i.e. costs and benefits generated by a project within the boundaries specified for analysis). It must once again be emphasised that the analyst should measure the costs and benefits relative to the nil (do nothing) alternative. Further, it is important that the analysis should not be done in terms of only a single set of parameters, but that a whole number of critical scenarios should be investigated with the aid of sensitivity analysis.
3	Quantification of cost and benefit streams.
4	Impacts, which are difficult to measure quantitatively, should nevertheless be recorded in qualitative terms and if possible ranked in order of importance. The analyst should also, as far as possible, quantify the social consequences of a project, and where such quantification is not possible they should be reported qualitatively. The following social consequences of a project should be addressed: ▪ Distributional effects between income groups, population groups or geographical regions; ▪ Welfare consequences; ▪ Environmental impacts; ▪ Political and constitutional implications; ▪ Strategic consequences; ▪ The creation of temporary and permanent job opportunities; ▪ The achievement of economic independence; and ▪ Population movements including migration.
5	Discounting of project cost and benefit streams to present values
6	Calculation of: ▪ Net Present Value (NPV) - which is the sum of the discounted net benefits (benefits minus costs) and should be positive for favourable projects; ▪ Benefit:Cost Ratio (BCR) - which is the ratio between benefits and costs in present value terms; and ▪ Internal Rate of Return (IRR) – which is the discount rate at which the streams of costs and benefits are equal[5].
7	Sensitivity analysis on the cost and benefit streams. The analysis should be based on risk factors, which have been identified in the project setting.
8	Interpretation and reporting of the results of the analysis.

Source: Mullins *et al.* (2002)

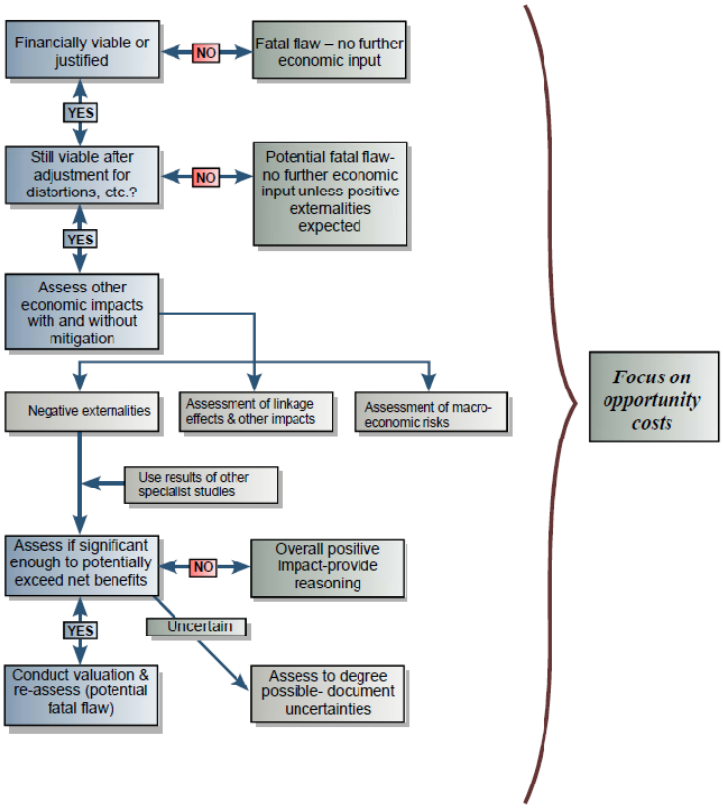

Figure B.1: The role of opportunity costs in the economic impact assessment process

Source: Van Zyl *et al.* (2005: 29)

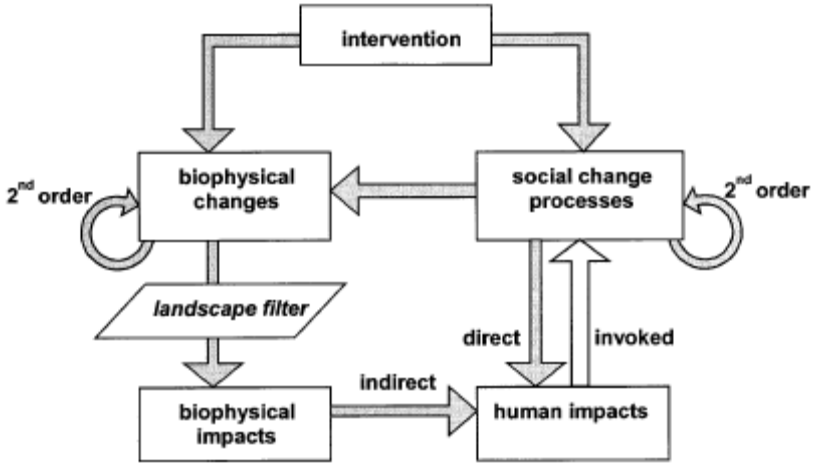

Figure B.2: Scoping framework for assessing changes and impacts

Source: Slootweg, Vanclay and Van Schooten (2001)

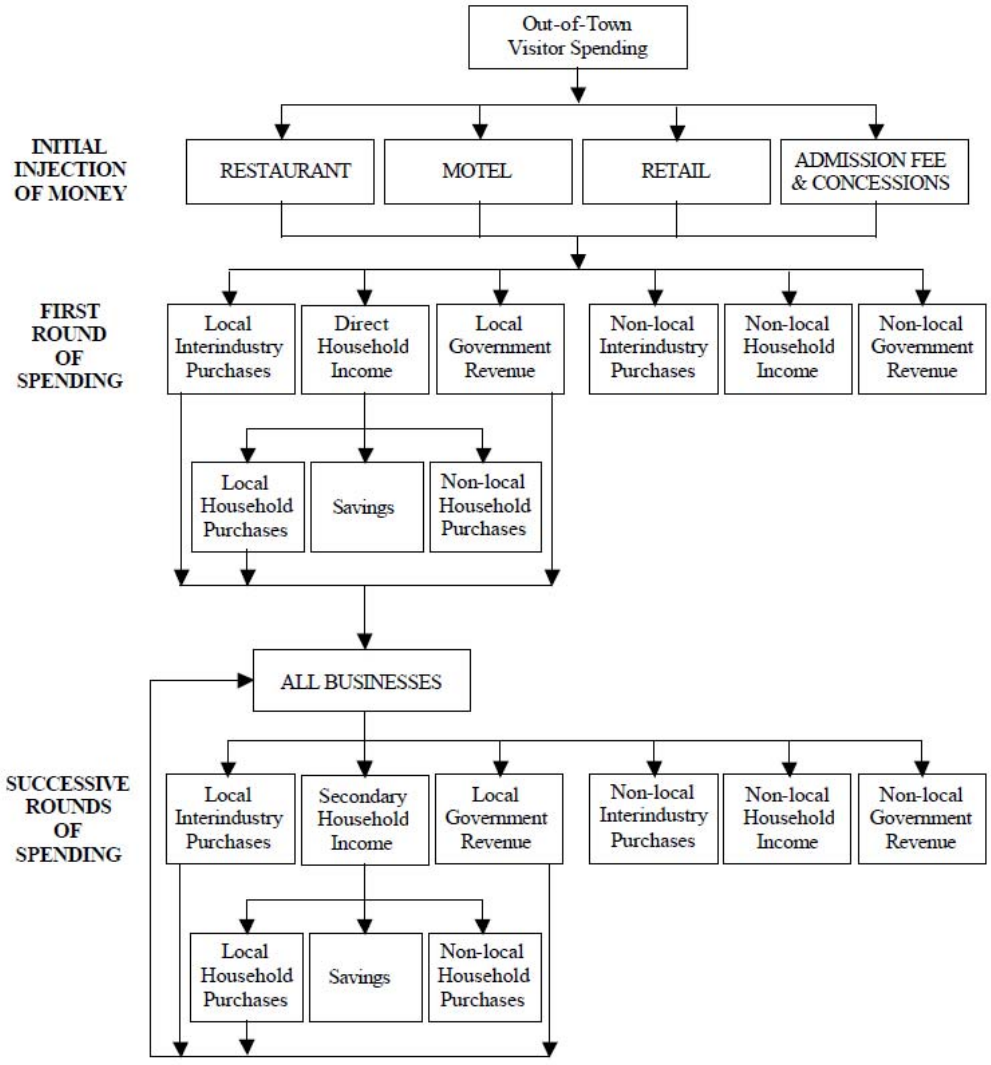

Figure B.3: Example of causal chain and 'leakage' effect – all spending not on locally situated business.

Source: Crompton(1999: 21)

Table B.2: Error rate for population figure based on sample size

Number of Out-of-Town Participants or Visitors	Percentage Error Rate (Plus or Minus)				
	1%	2%	3%	4%	5%
1,000	*	*	*	385	286
2,000	*	*	714	476	333
3,000	*	1,364	811	517	353
4,000	*	1,538	870	541	364
5,000	*	1,667	909	556	370
10,000	5,000	2,000	1,000	588	385
20,000	6,667	2,222	1,053	606	392
25,000	7,143	2,273	1,064	610	394
50,000	8,333	2,381	1,087	617	397
100,000	9,091	2,439	1,099	621	398
500,000	9,804	2,488	1,101	625	400

* In these cases more than 50 percent of the visitors from out-of-town are required in the sample.

Note: Number of visitors to be sampled to provide a given level of accuracy, either 1%-5%. Thus, for 500 000 foreign visitors, a sample size of 9804 will be required to deliver statistical significance at the 1% level, while just 400 respondents will need to complete the survey to ensure a 5% error rate.

Source: Crompton (1999)

Table B.3: Google search results for the numbers of different types of impact assessments

(The number refers to the number of search results using the Google Search Engine with the term in inverted commas. All searches performed on 19 May 2003.)

(1)	Aboriginal impact assessment	7	
(2)	aesthetic impact assessment	43	
(3)	agriculture impact assessment	74	
(4)	air quality impact assessment	947	
(5)	analytical strategic env assessment	177	
(6)	archaeological impact assessment	906	
(7)	Arctic impact assessment	18	
(8)	beneficiary assessment	1,660	
(9)	benefit cost assessment	1,060	
(10)	benefit incidence analysis	547	
(11)	biodiversity impact assessment	327	
(12)	business impact assessment	1,990	
(13)	climate impact assessment	2,720	
(14)	climate change impact assessment	1,140	
(15)	coastal impact assessment	55	
(16)	community impact assessment	1,550	
(17)	comprehensive impact assessment	996	
(18)	conflict impact assessment	1,240	
(19)	conflict risk and impact assessment	3	
(20)	consumer impact assessment	88	
(21)	corporate impact assessment	19	
(22)	corporate privacy impact assessment	2	
(23)	cost benefit analysis	322,000	
(24)	cumulative impact assessment	2,120	
(25)	cumulative effects assessment	2,620	
(26)	cultural heritage assessment	568	
(27)	cultural heritage impact assessment	241	
(28)	cultural impact assessment	505	
(29)	dam impact assessment	94	
(30)	demographic impact assessment	35	
(31)	development impact assessment	2,070	
(32)	disability impact assessment	21	
(33)	disaster assessment	5,490	
(34)	disaster impact assessment	136	
(35)	drainage impact assessment	227	
(36)	ecological assessment	15,000	
(37)	ecological impact assessment	1,260	
(38)	ecology impact assessment	347	
(39)	economic impact assessment	6,510	
(40)	enterprise development impact assessment	835	
(41)	environmental health assessment	3,360	
(42)	environmental health impact assessment	895	
(43)	environment impact assessment	6,060	
(44)	environmental impact assessment	171,000	
(45)	environmental risk assessment	24,100	
(46)	epidemiological impact assessment	4	
(47)	equality impact assessment	2	
(48)	equity impact assessment	47	
(49)	erosion impact assessment	39	
(50)	facility impact assessment	15	
(51)	family impact assessment	71	
(52)	fauna impact assessment	70	
(53)	fiscal impact assessment	408	
(54)	fisheries (+fishery) impact assessment	231	
(55)	fisheries resource impact assessment	23	
(56)	flora impact assessment	6	
(57)	food (chain) impact assessment	4	
(58)	forestry impact assessment	14	
(59)	gender assessment	1,200	
(60)	gender impact assessment	1,980	
(61)	GIS impact assessment	19	
(62)	GIS-based impact assessment	23	
(63)	Greenhouse impact assessment	1	
(64)	habitat impact assessment	196	
(65)	health impact assessment	10,400	
(66)	health technology assessment	24,800	
(67)	heritage impact assessment	570	
(68)	historical impact assessment	39	
(69)	historical resources impact assessment	137	
(70)	HIV/AIDS impact assessment (& HIV IA)	190	
(71)	human impact assessment	229	
(72)	human rights impact assessment	411	
(73)	impact assessment	377,000	
(74)	indigenous impact assessment	1	
(75)	infrastructure impact assessment	145	
(76)	institutional impact assessment	65	
(77)	integrated impact assessment	1,280	
(78)	landscape impact assessment	375	
(79)	legal impact assessment	33	
(80)	leisure impact assessment	19	
(81)	lifecycle impact assessment	15	
(82)	mental health impact assessment	31	
(83)	microfinance impact assessment	244	
(84)	mining impact assessment	33	
(85)	navigation impact assessment	4	
(86)	noise impact assessment	1,840	
(87)	odour impact assessment	158	
(88)	overflight impact assessment	16	
(89)	park(s) impact assessment	125	
(90)	participatory impact assessment	444	
(91)	participatory poverty assessment	3,980	
(92)	peace impact assessment	4	
(93)	pest impact assessment	64	
(94)	pesticide impact assessment	3,910	
(95)	policy assessment	13,800	
(96)	policy impact assessment	945	
(97)	political impact assessment	15	
(98)	political risk impact assessment	1	
(99)	poverty assessment	13,500	
(100)	poverty impact assessment	404	

(101) poverty and social impact analysis	1,230	(128) technology assessment	291,000
(102) poverty and social impact assessment	601	(129) technology impact assessment	484
(103) privacy impact assessment	1,820	(130) trade impact assessment	511
(104) psycho-social impact assessment	6	(131) tourism impact assessment	215
(105) rapid environmental (impact) assessment	727	(132) transboundary impact assessment	88
		(133) transport impact assessment	684
(106) rapid impact assessment	315	(134) uranium impact assessment	298
(107) regional impact assessment	536	(135) urban impact assessment	46
(108) regulatory impact assessment	14,300	(136) vegetation impact assessment	22
(109) rural impact assessment	29	(137) vibration impact assessment	267
(110) risk assessment	1,290,000	(138) visual impact assessment	2,760
(111) risk impact assessment	351	(139) water impact assessment	141
(112) site impact assessment	160	(140) welfare impact assessment	22
(113) social analysis	49,100	(141) wildlife impact assessment	362
(114) social assessment	15,600	(142) workforce impact assessment	5
(115) social capital assessment	353		
(116) social impact analysis	4,020	environmental audit	50,000
(117) social impact assessment	13,600	environmental management systems	118,000
(118) social risk assessment	209	environmental monitoring	283,000
(119) social soundness analysis/assessment	170	project appraisal	36,000
(120) socio-economic impact assessment	1,820	project evaluation	145,000
(121) strategic environment assessment	556	public participation	472,000
(122) strategic environmental assessment	14,700	public consultation	254,000
(123) strategic impact assessment	735	public involvement	298,000
(124) strategic integrated assessment	43	stakeholder analysis/assessment/ mapping	15,000
(125) sustainability assessment	5,980	social monitoring	5,120
(126) sustainability impact assessment	2,290	triple bottom line	33,600
(127) system impact assessment	444		

Source: Vanclay(2004: 274-275).

Appendix C

DESCRIPTION OF ASSESSMENTS

Saayman and Saayman (2005)

The Saayman and Saayman and Saayman (2005) assessment, named a "socio-economic survey", sought to consider, primarily, the "socio-economic impact of the AENP on the surrounding communities". The assessment was motivated and informed by SANParks intention to assess the effect of its tourism-based business on host communities, both socially and economically speaking (Saayman and Saayman, 2005: 3). This was placed in context by a consideration of the Eastern Cape socioeconomic trends. Following the identification of factors to be assessed, the assessors followed a three pronged approach to consideration of impacts.

1. Firstly, a desktop study was conducted to consider both the economic and social impact of the Park. Utilizing what little data was available to them, Saayman and Saayman (2005: 12) quantitatively calculated the economic impact of the Park using commonly applied Keynesian multipliers. A social impact assessment was limited to a desktop consideration of employment benefits arising from the AENP's existence utilizing AENP data on wage bills, etc. and a recommendation for the need to consider the effect of the Park on local business development. The purpose of the desktop study was, likely, to provide some comparative basis to ensure that the implementation of practical theory could be objectively measured for correctness and validity.
2. Phase two of the assessment process entailed the administration of two surveys to discern visitor spending patterns and effect on local business and employment creation by the Park itself (Saayman and Saayman, 2005: 14-20).
3. Phase three utilized the survey data to formulate a Leontief input-output table for the study area and applied the resultant multiplier coefficients to expenditure

figures to generate economic impact figures for the region as a whole (Saayman and Saayman, 2005: 21-30).

The Saayman and Saayman (2005) study was based on three primary data sets.

1. Official AENP expenditure figures over the 2003 financial year.

2. A visitor survey, administered by the assessors in a previous study over the 2004 period.

3. A survey of the local tourism businesses in the impact area in the 30km surrounds of the AENP.

Connor and Zimmerman (2008)

The Connor and Zimmerman assessment (2008), also named a 'socio-economic survey', sought to "investigate linkages between the expansion of the AENP and regional poverty alleviation" (Connor and Zimmerman, 2008: 9). Data as to the AENP's local economic impact was sourced from primarily local tourism businesses. Similarly, in the method section of the assessment, where the economic multiplier as a tool is explained, no justifications are provided for method choice. The method used sought to understand the socio-economic impact of the AENP based on AENP expenditure data and a survey of local tourism business. Following the presentation of results, the assessors applied economic multipliers adapted from other contexts to the expenditure data at hand, thus yielding economic impact figures.

The Connor and Zimmerman (2008) study was based on three primary data sets.

1. A survey of the local tourism businesses in the impact area in the 50km surrounds of the AENP.

2. The second aspect of the 2008 data collection focused on AENP expenditure data. Due to the lack of complete AENP financials for the 2008 year, 2007 financials were used, adjusted for growth.

3. The third data set used was one compiled by SA Tourism in 2003 and measured foreign tourist spend patterns while on holiday in South Africa.

No action was taken to provide a data set measuring tourism spend patterns within the specific study context of the 50km radius of the AENP. This is somewhat unusual for an economic impact assessment, given that out-of-town visitor spending is often one of the largest components of economic impact in a tourism-related event under assessment (Crompton, 1999; Crompton, 2006). Looking at Saayman and Saayman (2005) and CES (2010), however, and other similar SEIAs conducted around the world (Lee and Taylor, 2005; Snowball, 2008 and Batey *et al.* 1993), it is an out of the ordinary exclusion in the assessment of impacts such as the AENP's. The assessors also undertook to "qualitatively texture" the results through four in-depth personal interviews with key local respondents (Connor and Zimmerman, 2008: 30).

CES (2010)

The CES (2010) assessment, named a 'socio-economic impact assessment' sought to consider, primarily, "the actual benefits of conservation interventions that accrue to the local people and economy" (CES*,* 2010: 2). The purpose and method of the assessment was once again informed in detail by the terms of reference laid out by SANParks. The primary socioeconomic baseline figures were obtained from the 2001 census data on a ward by ward basis over the impact area. Justifications for factors chosen to be measured as possible indicators of socio-economic impact – local businesses, employees, AENP data – were provided in the final report. The vehicle of assessment was by means of surveys – of local business, employees of local business and the AENP, and visitors to the Park itself. The approach was combined with AENP financial figures and interviews with key local respondents. Method entailed baseline feedback as to the socioeconomic profile of the study area, followed by implementation of the survey technique and analysis of the results using economic multipliers adapted from similar contextual situations (CES, 2010).

The CES (2010) study was based on five data sets. They were collected in line with "Task One" of the assessment, which included the following aims: "the overall economic investment impact of AENP on the local economy and the sustainability thereof" (CES,2010: 1) and the determination of "the overall employment generated as a direct result of tourism activity due to the park and the sustainability thereof" (CES, *et al.,* 2010: 2).

1. The first data set was comprised of visitor numbers, characteristics and spending patterns and was collected by means of a survey.

2. The second was obtained by means of another survey, of business either directly or indirectly affected by the AENP.

3. The third data set related to the employee conditions of workers in either the AENP or by one of the businesses the existence of which is owing to the AENP, also collected by means of a survey.

4. The fourth data set was obtained from Park authorities and was comprised of the AENP and other related programmes' expenditure figures for the 2009 financial year.

5. The final set of data was collected from key respondents from prominent organisations involved in Park projects, the local tourism sector, local projects supported by the Park, and community development programs sponsored by the Park. This was achieved by means of in-depth personal interviews.

Time frame of study

The time frame of the study is another important factor that must be clearly defined to ensure precise calculations without ambiguities. The 2005 study is completed for the effect of the AENP over the 2004 period, although the choice of study meant the assessors had to use 2003 financial figures for the AENP expenditure (Saayman and

Saayman, 2005: 10). This would be justifiable had the assessors adjusted the expenditure figures to 2004 levels to ensure a fit with the rest of the data, but no inflation adjustment was made. The 2008 assessment was completed for the 2008 year. The 2010 assessment was completed for the year 01 April 2009 to 31 March 2010. Full financials were not available for the latter three months of the year from the AENP, but projected figures were used as a proxy.

Socioeconomic context

Saayman and Saayman and Saayman (2005) provide a detailed overview of the Eastern Cape in terms of main industries, population, education, employee income and GDP. However, very little data or indicators are provided for the impact area in the direct surrounds of the AENP itself. As the assessors held, "unfortunately no census results are available for the region around the AENP" (Saayman and Saayman, 2005: 6). Given that results will have to be interpreted in an Eastern Cape context, the interpretation thereof will be inapplicable to the study area – the results themselves are designed to specifically exclude large industrialized urban centres.

Connor and Zimmerman (2008) include no profiling phase in its report. The Eastern Cape trends are only mentioned in a latter section of the report, and then only tourism information with little relevance to the broader socioeconomic context in which the AENP operates.

CES (2010) provided an overview of household income, employment levels, population demographics, and education levels for the specific 50km impact area in the surrounds of the AENP. This was achieved through use of government census data from the 2001 census, applied ward by ward to the relevant geographical areas in the surrounds of the AENP. Moreover, tourism trends and profiles for the greater Eastern Cape and Nelson Mandela Bay Metropole regions were established, data being unavailable for the Sunday's River Valley region.

Assessing change with the greater socioeconomic perspective as a backdrop allows comparison of a 'shadow' scenario (the area without the AENP) with the actual scenario

as elucidated through the assessment process. This stage of the process is essential in order to ensure a comparative presence within the impact assessment – of the socioeconomic context with the AENP, and the socioeconomic context without. It is only after this has been duly completed that conclusions can be drawn as to the overall socioeconomic *effect* of the AENP on its surrounds. How will it be possible to measure impact without knowledge of what the AENP is impacting on? The Saayman and Saayman (2005) assessment formulated a regional socioeconomic profile but did not render one specifically applicable to the agricultural / tourism based economy in the 30km surrounds of the AENP. Considering their outcomes were based on an assessment of the impact of the AENP on that agricultural / tourism based economy means that the findings are inapplicable to the baseline shadow scenario. The Connor and Zimmerman (2008) assessment did not render a socioeconomic profile. The CES (2010) assessment rendered a socioeconomic profile of the specific impact area chosen by the assessors, providing a model for comparative analysis of the AENP's impact on that socioeconomic context. However, the data used to compile the baseline was eight years old.

Were enough people sampled?

The issue of how many people need to be sampled before a number of respondents has been attained representative of the total number of visitors is one depending on variability of the data. A general framework was derived by Crompton (1999: 43) (see table below), which provides required sample sizes given a total number of foreign visitors for differing levels of error.

Table C.1: Error rate for sample size

Number of out-of-town participants or visitors	Percentage Error Rate (plus or minus)				
	1%	2%	3%	4%	5%
1,000	*	*	*	385	286
2,000	*	*	714	476	333
3,000	*	1364	811	517	353
4,000	*	1,538	870	541	364
5,000	*	1,667	909	556	370
10,000	5,000	2,000	1,000	588	385
20,000	6,667	2,222	1,053	606	392
25,000	7,143	2,273	1,064	610	394
50,000	8,333	2,381	1,087	617	397
100,000	9,091	2,439	1,099	621	398
500,000	9,804	2,488	1,101	625	400

*in these cases more than 50 percent of the visitors from out-of-town are required in the sample

Source: Crompton (1999)

Note: Number of visitors to be sampled to provide a given level of accuracy, either 1%-5%. Thus, for 500 000 foreign visitors, a sample size of 9804 will be required to deliver statistical significance at the 1% level, while just 400 respondents will need to complete the survey to ensure a 5% error rate. (Crompton, 1999: 43)

Connor and Zimmerman (2008) interviewed 52 businesses out of a posited 170 total businesses in the impact area (Connor and Zimmerman, 2008: 35). Thirty one percent (31%) of the total sample size would result in an error rate in excess of 5%.

The 2010 visitor survey interviewed 222 respondents. Total visitor numbers were not available for the 2009-2010 year, so 2008-2009 visitor numbers were used, which total at 144,586. Upon a consideration of the framework provided by Crompton (1999), for visitor numbers of 100 000, a minimum sample of 398 should be achieved to ensure a 5% error rate, indicating an error rate in excess of 5%.

CES (2010) furthermore provided for the exclusion of 'casuals' (Crompton, 1999: 19) from the analytical process by asking questions such as the reason for the visit to the AENP. Determination of motivation to visit the region would provide some indication as to whether or not expenditure in the region would have occurred regardless of the event. It did not specifically take into consideration the possibility of 'time-switchers' and thus exclusion might have buoyed the results of the economic impact figure slightly. However, due to the fact that the AENP is a permanent tourist attraction, the possibility of time-switching bias is of no relevance in the impact assessment.

Multiplier data analysis summary

Saayman and Saayman (2005) was limited to derive primarily visitor expenditure income and output effects, combined with some assessment of the AENP expenditure on the local economy. Nevertheless the calculation was consistent and accurate, and from what is known of the derivation of the multipliers these were valid in terms of their source and application.

Connor and Zimmerman (2008) used AENP tourism income as a proxy for visitor expenditure. Furthermore the focus was placed on calculating the economic impact of construction activities within the Park and related projects and the operating expenditure of the AENP on the local economy. The method utilized to achieve these aims, however, involved 'adapting' national multipliers to a regional and local context by means of assumptions. National multipliers are unlikely to be useful in the rural Eastern Cape context. Moreover, the types of multipliers used were output and employment multipliers, of which the output multipliers mean little in terms of real social change to the area and the employment multipliers were incorrectly applied. The reason for the inability of Connor and Zimmerman (2008) and CES (2010) to utilize the multipliers Saayman and Saayman (2005) calculated is the difference in study areas. The 2005 assessment concentrated on the economic impact of the AENP within a 30km radius, while the 2008 and 2010 assessments utilized a 50km radius. The significance of the difference in economy sizes between these two radii are clear when one considers that Port Elizabeth, the industrial capital of the Eastern Cape, falls into the 50km zone but

not the 30km. Therefore multipliers derived in the Saayman and Saayman (2005) report are unsuitable for use by Connor and Zimmerman (2008) and CES (2010).

CES (2010) adopted a more comprehensive approach than either Saayman and Saayman (2005) and Connor and Zimmerman (2008), providing an overview of two possible means of deriving economic impact from visitor expenditure, a sensitivity analysis in the case of construction to make up for unmotivated choice of multipliers and recognition of the limitations of employment multipliers. The derivation and sourcing of the multipliers was in all cases limited by the lack of quality data to construct as in the case of the 2005 assessment, an I-O table, and thus the multipliers had to be 'adapted' from a national context. Lack of reliable modelling of local economies has in both Connor and Zimmerman (2008) and CES (2010) constrained the reliability of the results and introduced an element of guesswork into the outcomes

Appendix D

CES BUSINESS QUESTIONNAIRE (2010)

Introduction

Hello. We are doing an independent study for SA National Parks to assess the socio-economic impact of the Addo Park on the local economy. We would like to set up an appointment with you to interview you about your business some time during the next few days and would be grateful if you could participate. The interview should take about 15 minutes. It can be done in person or over the phone.

Note: There are three sections to this questionnaire. **All businesses** complete **section 1**. **Section 2** is for **hospitality related industries** catering for tourists to the region. **Section 3** is for **service providers**, either to the Park itself or the hospitality industries.

Researcher name: .....…… Date: ……

Business name: ……

Business Location: ……

Respondent's name and position: ……..

Business Owner's race:

□ African □ Asian □ Coloured □ Indian □ White □ Group of various races □ Other

Section 1: All Businesses complete:

1. When was this business established? …….

2. What services does this business offer? (Tick table below)

Services	Tick	Importance (Qu 18)
Accommodation		
Restaurant		
Shop/Retail		
Adventure Activites		

Services	Tick
Catering	
Cleaning/Chem	
Engineering services	
Electronics	

Services	Tick	Importance (Qu 18)
Game Viewing		
Hiking		
Horse Trails		
Canoeing/Boating		
Diving		
4x4 trails		
Fishing		
Hunting		
Historical tours		
Cultural tours & Activities		
Other: (Specify)		

Services	Tick
Construction, repairs & hardware	
Security	
Textile/Clothing	
Vehicle suppliers & repairs	
Transport	
Fuel	
Agriculture/Food	
Stationary	
Administration	
Financial	
Insurance	
Marketing/Media	
Security	
Other: (Specify)	

3. How would you rate your business performance in the last year?
□ Poor □ Fair □ Good □ Very good

4. How was your business performance as opposed to 2007/2008?
□ Much better □Better□ Same □ Worse □ Much worse

5. If there was a change in performance from 2008 to 2009 what do you attribute this change to?
……

6. What were the three biggest challenges your business faced on startup?
□ the Recession, □ Securing finance □ Establishing business □ Marketing □ Staff training & sourcing □ Lack of infrastructure □ Staff transport □ Staff housing □ Bad workmanship □ Fencing □ Breeding of wildlife □ Other (please specifiy)

……..
□ None

7. What is the biggest challenge facing your business today?
……

<u>Employment</u>

8. How many people does your business employ?
a. At inception: …….

b. Five years ago: …….
c. Now: ……..

9. Please provide some details about current staff members:

Details	Number of employees			
	Total	Male	Female	Disadvantaged (African)
Total staff complement				
Total full-time employees				
Total part-time employees				
Total temporary or casual employees				
# Highly Skilled				
# Semi-skilled				
# Unskilled				

10. What is your total monthly wage bill? R……

11. What total do you pay monthly for?

- **Highly skilled employees: …….**
- **Semi-skilled employees:…….**
- **Unskilled employees:……..**

12. Do employees receive any payment in kind over and above their basic wage?

□ yes □ no

If so, then what percentage of their income does this approximate?

□ 10% □ 20% □ 30% □ 40% □ above 50%

And in what form is this made?

□ pension □ savings plan □ rations □ utilities □ housing □ education □ stock grazing

□ vegetable gardening □ transportation □ medical □ other (please specify)…….

13. What proportion (%) of your staff were sourced from and live in the area within 50km of the Addo Park? …….%

14. Do you offer any training or skills development to employees?

□ yearly courses □ monthly courses □ occasional based on need

Addo

15. Do you have any business relationship with the Park? □ Yes □ No
If yes: what is the nature of this relationship?
□Consessionaire/Partner □ Competitor □ Provider of goods □ Provider of services, □ Complementary Tourism business □ Complementary Eco tourism and game farming business □ Other: (Specify) ……

16. What proportion of your annual turnover is sourced from tourists directly or from the Addo Park or from other local tourism related businesses? (Restrict to 50km radius around the Park)
□ None □ Less than 10%, □ 11-20%, □ 21-30%, □ 31-40%, □ 41-50%, □ 51-75% of turnover, □ 76-100% of turnover

17. Please indicate your approximate gross turnover (before tax) for the 2008/9 financial year:

a. Below R50 000 per annum	□
b. Between R50 001 and R100 000 per annum	□
c. Between R100 001 and R250 000 per annum	□
d. Between R250 001 and R500 000 per annum	□
e. Between R500 001 and R1 million per annum	□
f. Between R1 & R5 million per annum	□
f. Between R5 & R10 million per annum	□
g. More than R10 million per annum	□

Section 2: Tourism

18. Rank the three most popular goods/services you provide to tourists? (put rankings in table for question 2)

19. What percentage of your total business transactions do you estimate are related directly to tourists? ……..%

20. What is the average number of monthly tourists/visitors you receive?
Off season: _____Peak season: _____

(Note: if can't provide monthly estimate, then what about weekly or daily – this may be easier for restaurants and shops etc.)
Is this a □ monthly, □ weekly or □ daily number?

21. How many beds (or seats for restaurants) does your establishment have?

a. Currently: ……., b. Last year: …….., c. Three years ago: ……..

d. At start-up: ……..

22. Accommodation Rates per person per night?

Off season: _____Peak season: _____

23. Please indicate the tourist market segment your business targets and provides goods/services to? (can indicate more than one)

a) □ Foreigners □ African nationals □ South Africans □ Locals/Eastern Cape. □ all

b) □ Exclusive/Very High Budget □ High Budget □ Middle budget □ Low Budget □ all

24. Please list your three largest goods/service providers in your day to day business transactions. Provide the name and the location of the business

#	Name of Business	Location of Business
1		
2		
3		

25. Have you spent money either maintaining or expanding your tourism facilities and services in the past two years? □ Yes □ No

a. If yes, approximately how much?

□ under R25 000 □ R25 001–R50 000 □ R50 001–R250 000 □ R250 001–R500 000 □ R500 001–R1 million, □ R1-5 million □ R5 million +

26. Please indicate what types of service providers you used for these expansion/maintenance activities

□ Builders □ Painters □ Carpenters □Tilers/pavers □ Interior design □ architects □ Furnishers □ Hardware suppliers, □ electronic services/suppliers, □ fencing □ Game suppliers □ Security □ Marketing and media □ Other: (Specify: ……..……)

27. What proportion of these service providers were local suppliers (located within 50km of the Park)? …….

Section 3: Service providers to the AENP and other tourism-related

businesses

28. Indicate your top five tourism related clients in the area 50km in and around the Addo Park (including the Park)? Provide the name and the location of the business

#	Name of Business	Location of Business
1		
2		
3		
4		
5		

29. What goods and / or services do you provide the AENP or any other tourism related business in the area with? Please list only the three most supplied:

1_____
2_____
3_____

30. List the top 3-5 suppliers you use in order to provide services to your clients. Provide the name and the location of the business

#	Name of Business	Location of Business
1		
2		
3		
4		
5		

Section 4: General Questions

31. Have you been to the Addo Park? □ often □ occasionally □ not at all

32. Has Addo had a positive or negative impact on your business?
□ Very positive, □ Positive, □ Neutral, □ Negative □ Very negative

33. Do you think the Addo Park has had a positive or negative impact on the region (area within 50km of the Addo Park – includes all surrounding towns and PE)
□ Very positive, □ Positive, □ Neutral, □ Negative □ Very negative

34. Do you have any suggestions on how Addo or SANParks could be of greater benefit to you and the surrounding area?

Appendix E

CONNOR AND ZIMMERMAN BUSINESS QUESTIONNAIRE (2008)

1. BASIC INFORMATION

Notes to interviewer:

The purpose and ethics of the questionnaire must be explained to each respondent prior to the actual interview, and consent must be obtained to obtain permission to use the business name in a forthcoming report. All information is confidential. Copies of the interview schedule can be made available to the client, if so requested.

All questions must be answered in as much detail as possible. Thus, it is not possible to only list the type of services offered, a full description must be given of each. In this manner, a description and picture of each business can emerge that does not only reflect numbers and figures, but context and relevancy.

If portions of this questionnaire cannot be fully answered by the owner/manager, please interview employees of the business as well, if necessary

Please leave out those sections not applicable to each business type (eg: if the business is a curio shop, leave out the accommodation data)

Please circle **the answers most applicable in the interview**

1.1 Name and position of Respondent: (eg: manager) (*this is optional if respondent prefers to remain anonymous*)

_____

1.2 Type of facility –

a. B & B	e. Servicing industry (eg: building)
b. lodge	f. Tours & adventures
c. hotel	g. Entertainment
d. game ranch	h. NGO (development)
i. Other: _____	j. Restaurant
k. Guesthouse	
l. Gift shop/retail	m. Backpacker/Caravan park

n. Self catering

1.3 Business description – what services does this business offer?

a. Game viewing
b. Restaurant
c. Accommodation
d. B & B
e. Walking safaris
f. Horse riding
g. Tours
h. Hunting
i. Other: _____
j. Gift/Retail

1.4 When was the business established? (provide year)

_____

1.5 Have your rates or prices changed in the last five years?

a. Decreased
b. Increased

If increased, provide approximate percentage: _____

If increased, provide reason:

_____

_____

1.6 What were the three greatest challenges faced by the business in the beginning?

a.

_____

b.

_____

c.

_____

1.7 How would you rate your businesses performance in the last year?

a. Poor
b. Fair
c. Good

d. Very good

1.8 How would you rate your businesses performance in the last 5 years?

a. Poor

b. Fair

c. Good

d. Very good

1.9 What were the approximate costs in the initial outlay of the business?

_____

1.10 What are the approximate costs of maintaining the business?

_____

1.11 Does the business offer training or skills development to staff?

a. No

b. Yes

If yes, describe:

_____

_____

1.12 Are you registered with the Eastern Cape Tourist Board?

a. No

b. Yes

Do you have any comments?

1.13 What are your plans for the future?

_____

_____

_____

2. EMPLOYMENT & SERVICES

2.1 How many people does the business employ?

a. At inception:

b. Five years ago

c. Currently

Please provide some details about staff members:

Table 1: Staff members

Staff Position	**Duties**	**Gender**	**Salary**	**Full time (FT), part time (PT) contract (C)***	**Do they live on or off the property?**	**Start Date**

* Contract work refers to temporary labour such as citrus picking or bush clearing. Part time work
indicates an employee who works a portion of the day.

2.3 Do employees receive any payment in kind (extras or benefits) over and above their basic wage?

a. No

b. Yes

If yes, fill in below two questions:

2.4 What percentage of their income does this represent (approximate)?

a. 10%

b. 20%

c. 30%

d. 40%

e. Above 50%

Table 2; payment in kind

Extras/Payment in kind	**Description**
Pension	
Savings plan	
Rations	
Water/electricity/sewage	
Housing	
Education	
Church	
Stock/Grazing – numbers and	
type	
Vegetable garden/arable land	
Transportation	
Medical	

Other	

2.5 Do employees have access to natural resources or land (eg: game or herbs)?

a. No
b. Yes

If yes, describe

_____

_____

2.6 What type of employment have employees had access to in the past?

a. Citrus picking
b. Bush clearing
c. Fencing
d. Herding
e. Farm work
f. Tourist
g. Other

2.7 In your opinion, how have employees benefited from their employment compared to previous
work?

a. Little (and why?) _____
b. Middling (and why) _____
c. A lot (and why) _____

2.8 How would you rate the following services in your area? Excellent (E), Very Good (VG), Adequate (A), Bad (B), Not Applicable (NA)

a. Roads
b Water
c Electricity
d. Sewage
e. Public transport
f. Telephone access
g. Local municipality
h. Eastern Cape Tourism Board

2.9 Are there other services that may need attention?

_____

3. ADDO ELEPHANT NATIONAL PARK

3.1 Have you ever been to Addo?

a. No
b. Yes

If yes, why?

_____

3.2 Is the area more or less prosperous since the expansion of Addo?

a. Much more
b. More
c. Same
d. Less

3.3 Which business sectors do you think are most likely to grow over the next 5 years?

a. Accommodation
b. Game viewing
c. Hunting
d. Curio shops
e. Camping/Backpacking
f. Servicing industries
g. NGOs

3.4 Has Addo had a positive or negative impact on your business?

a. Yes – provide reasons
b. No – provide reasons

3.4 Has Addo had a positive or negative impact on the region?

a. Yes – provide reasons
b. No – provide reasons

3.5 Do you have any contact with SANParks employees?

a. No
b. Yes

If yes, what is the purpose of your relationship?

_____

3.6 Do you have any suggestions on how Addo or SANParks could be of greater benefit to you and the surrounding area?

_____

_____

4. ECONOMIC DATA

4.1 Approximately how many visitors do you receive?

a. Monthly in off season: _____
b. Monthly in peak season: _____

4.2 How many beds does your establishment have? _____

4.3 Please describe the type of tourists that may access your facility, and the numbers of each(approximations are ok). Eg: local, foreign, provincial)

Table 3: Type of tourists & income over the past year

What type of tourist?	**Percentage of total per annum**	**Average spend per trip**	**Average length of stay**	**Income per annum**
Local (from the area)				
Provincial (from the EC)				
Countrywide (from SA)				
Foreign (overseas)				
Foreign (Africa)				
Day trips				

4.4 Please list and describe the activities that tourists prefer (i.e.: hunting, sightseeing, game
viewing, off road vehicles, B & B) Indicate which one is the most popular.

Table 4: Tourist activities

Activity type	**Popularity**	**Numbers**	**Percentage of your income that this represents**
Game viewing			
Off road safaris			
Sightseeing			
Hunting			
Eating/Restaurants			
Other			

4.5 What reasons do people give for their visit?

a. Passing through
b. Addo related
c. Other

4.6 Have tourist numbers increased or decreased dramatically during the last five years?

a. No
b. Yes:

If yes, provide percentage of increase: _____

If yes, provide reasons:

_____

4.7 What are the services that you sell/market? Indicate the most popular below, as well as the different rates (costs) of services:

Table 5: Description of services (eg: camping, self catering, B & B, lodge, etc.)

Service type	**Description**	**Rate out of season**	**Rate in season**

4.8 What type of products do you sell/market (eg: curios, leather goods, magazines, etc)? List the *most popular*, as well as their source and price

Table 6: product description

Product	**Description**	**Source (where do you find them?)**	**Price**

4.9 Please provide your approximate annual/monthly income derived from tourist products (ie: curios, etc) (How much do you buy them for?)

4.10 Please provide your annual/month spending on tourist products (ie: how much does it cost to buy them?)

4.11 What percentage of your products or services are derived or associated with the Addo Elephant National Park? (eg: tours to the park, curios with Addo branding, etc.)

_____

4.12 Please indicate your approximate net annual turnover (please note that this info is confidential, you may choose not to provide this information)

a. Below R50 000 per annum
b. Between R50 100 and R75 000 per annum
c. Between R75 100 and R100 000 per annum
d. Between R100 100 and R150 000 per annum
e. Between R150 100 and R200 000 per annum
f. Between R200 100 and R250 000 per annum
g. Between R250 100 and R300 000 per annum
h. Between R300 100 and R500 000 per annum
i. Between R500 100 and R750 000 per annum
j. Between R750 100 and R1 000 000 per annum
k. Above R1 000 000 per annum

4.13 What is the current capital value of your business (replacement value?)

5. COMMENTS & OBSERVATIONS

5.1 Is there anything else you wish to say about your business and your relationship to the Addo Park?

Appendix F

TERMS OF REFERENCE FOR CES (2010) SEIA

Objective of the Assignment

South Africa has some of the most important conservation areas in the world yet, little is known in terms of the local and regional socio-economic impact and benefits that stem from these parks. Through park development, opportunities are created and downstream benefits realized, but these outcomes need to be economically and socially quantified. The purpose of this intervention is to update current knowledge and research further baseline information on the associated socio-economic impacts and ecotourism potential of the greater Addo Elephant National Park and its surrounds.

This commissioned work should use as reference two similar studies which will be made available, and gathered data should be both comparable and replicable. SANParks are striving to maintain and measure the socio-economic impact of the developing park and to gain additional insight into the actual benefits of conservation interventions that accrue to the local people and economies, whether this be through job creation, improving sustainable livelihoods and skills development or through economic modeling.

Addo Elephant National Park (AENP) has been identified by SANParks for this purpose because of its current growth in size, developments, capital investment, and in the number of tourism services and businesses being generated in the region, and to further increase external funding opportunities. The study is funded by GEF and the World Bank as its Implementation Agency and as such will be measured following CQ assessment and registered according to the standard SANParks project protocol.

1. Scope of Service

Includes:

- Knowledge of Eastern Cape socio-economic issues and ecotourism;
- Specific experience with socio-economic impact theory and practice, and quantifying forecasts on sustainable benefits;
- A proven research record, particularly in socio-economic studies and an understanding of the dynamics of people and parks relationships;
- Proven report writing experience.
- Facilitation skills.
- All proposals to include estimated person hours required for task completion with a breakdown of the skills sets and rates per qualification.

2. Task Definition

Task 1. To estimate the impact of eco-tourism business development within an average 50km radius of the AENP and determine the socio-economic costs and benefits experienced by the region, that can be attributed (both directly and indirectly) to the park.

- A research design must be submitted for approval by SANParks.
- A preliminary analysis of available data must be done and findings delivered.
- Data should include total numbers of accommodation facilities (formal and informal), dates established, rates and occupancy, number and types of jobs created, salaries and number of dependents supported, and skills development programmes.)
- Results should estimate the economic investment impact of AENP on the local economy and the sustainability thereof
- Results to determine the overall employment generated as a direct result of tourism activity due to the park and the sustainability thereof.

Product:
A detailed written report with data comparable to the previous studies conducted. The document should describe both the process used to obtain the required results and an analysis thereof and focus on the most important components of each of these reports. In addition the report should suggest suitable indicators that could be used to monitor future growth and successes.

Task 2. Using a multiplier analysis or other accepted and defendable methodology, determine visitor spending patterns, market segments and tourism income attributable directly of indirectly to the AENP.

- A Multiplier analysis should be used to determine:
  - Direct spending by visitors on tourism products and also the direct employment as a result of the expenditure.
  - Estimate the income leveraged by local businesses through the use of SANParks and Addo associated branding
  - Indirect spending and indirect employment created due to businesses buying products and services locally (including suppliers in Port Elizabeth).
  - Induced spending and employment as locals re-spend the additional money earned.
  - Associated levels of social and business sustainability.

Product:

Produce a comparative written analysis (electronic and hard copies) incorporating the required data and showing trends and disparities between results obtained and those of the previous survey (where comparable).

v) Duration

It is expected that the project would be completed by 01 March 2010 and require an estimated 175 person days to complete.

Competency Profile:-

The task will require:-

- A team leader

The Team leader should be an acknowledged professional with a minimum of a MSc/MBA in resource economics and a proven research record in economics, tourism, and/or resource economics.

- A minimum of two field researchers.

Field researchers should preferably have a tertiary qualification in resource economics

VI) Form of contract

The standard World Bank lump sum forms of payment will be followed.

VII) Deliverables and Conditions

All tasks have been listed to facilitate consultants in their planning of the delivery of the project (see Table 1). In drawing up their proposals, consultants are invited to comment on the TORs and suggest improvements.

Reports are to be submitted in MS-Word, single spaced A 4 format, with 2.54 cm margins on all edges in Arial 11 pitch font. All data to emerge from the project will be that of the client, to which the contracting party would have access in agreement with SANParks. Publication of the information would be in cooperation with the client.