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**Thesis: Masters Environmental Management  
Positioning Ecological Justice in  
Environmental Decision Making**

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## **Positioning Ecological Justice in Environmental Decision Making. KwaZulu Natal.**

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The need for housing developments in South Africa has grown significantly over that last 12 years. On the one end of the scale there is the desperate need for housing by the homeless and on the other end there is substantial growth of the middleclass indicating better buying power and the explosion of the property market that made investment in housing very attractive. Examples of these two parallel levels of housing are the Sipumulele low cost housing development that is situated in the eThekweni Municipality and was developed by government. On the other side of the scale is the upmarket Koelwaters residential development situated on the South Coast of KwaZulu Natal in the Hibiscus Municipality and was developed by a private developer. In conjunction with this demand for housing there is also international pressure to comply with sustainable develop guidelines and approaches.

Both these developments are situated on ecological sensitive land. As legal requirements both these developments were required to do scoping reports to assess their environmental impacts. In South African, Environmental Impact Assessments (EIA) for various new developments has been formally required in terms of Legislation for the last 8 years, although the legislation has been in place for the last 16 years. Is this legislation assisting in securing more sustainable development? It is argued that sustainable development should be founded on ecological justice principles. This research explores the concept of ecological justice and how it is linked with sustainable development. It identifies ecological justice principles that should be used in the compilation and assessment of EIAs.

The field research explored how decision makers in practise are using the current legislation and if they are at all considering ecological justice in their decision making. This is done through a series of interviews with the critical decision makers with regard to EIA's and key role players in the development process of specifically the two above mentioned housing projects. During the interviews qualitative questions were asked relating to the developments, the EIA process and ecological justice. There was a focus on interpreting the awareness of decision makers regarding development and layout and on improving developments to determine to what level they follow ecological justice principles. In the broader sense this research is contributing to the understanding of ecological justice and the clarifications of ecological justice principles. It also contributes to understanding the South African housing development context and the movement of South African Developments towards sustainability.

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## CHAPTER 1

### INTRODUCTION

Taking principles of ecological justice into consideration in environmental decision-making is challenging. The concept of ecological justice is often seen by society as unrealistic and incompatible with the pressure of development.

Leading United States demographers have published comprehensive reports predicting that an extra 1000-million people will be living in the poorest African countries by 2050. (Vidal, 2004:1) With such demanding increases in population and pressure on the natural resources and the ecological environment it should be asked:

- Are sound ecological choices being made?
- Is South African legislation facilitating truly sustainable development and are the decision makers equipped both on academic and institutional levels to make the right assessments and decisions?

There are many examples of how the developing world has impacted negatively on the natural environment such as urbanization and urban sprawl, the increasing use of non renewable energy and deforestation. These models can be followed as in Las Vegas (Plate 1.1) and could lead to further ecological damage.

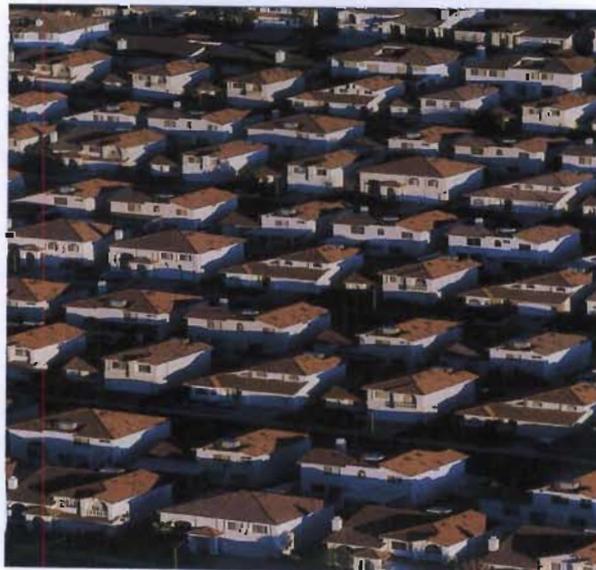


Plate 1.1 Las Vegas: Fastest growing Metropolitan Area in USA. (National Geographic, 2001)

South Africa as a developing country or rather a country, with a dualistic social economic situation, is in a unique position in comparison with the rest of Africa. South Africa has a strong economy that creates a positive perception with regard to the development potential of the country. South Africa and other African countries are fortunate to be able to learn from developed countries. We are able to learn from their mistakes regarding the unwise use of their ecological resources and so we are able to avoid the same unsustainable development strategies, policies and models.

South Africa's unique past and heritage of apartheid facilitated urban sprawl resulting in residential neighbourhoods that are medium density with little or no transport, social and economic infrastructure (see plate 1.2). This form of urban sprawl provides even further challenges with regard to the facilitation of sustainable development. It is therefore even more critical that sound environmental and development decision-making has to take place in South Africa to ensure that development is managed in a sensitive and sustainable manner.



Plate 1.2 Urban Sprawl in South Africa, Mdantsane, Eastern Cape, (Photo: Courtesy of buffalo City Municipality 2004)

In considering developments that were subject to the environmental scoping processes and which were allowed to proceed, as a trained Town Planner and environmentalist in training it struck me that they were allowed to develop on ecologically sensitive land without very strict ecological guidelines. The scoping process has to assess whether the

proposed development will impact negatively or positively on the environment. It seemed that even though the scoping processes were completed the ecological environment never appeared to be the first concern in the negotiation of priorities. Justice towards the ecological environment was rarely served.

This research investigates how scoping reports, as an environmental decision-making tool, are taking ecological justice concerns into consideration. Ecological justice is one of the underpinning concepts of sustainable development. It will be argued that without considering ecological justice principles in the scoping process it is not possible to make sound ecological choices that will facilitate sustainable development.

The objectives of the research were:

- Review and interpret the concept of ecological justice.
- To determine the extent to which ecological justice principles were integrated into environmental decision-making in two housing projects.
- To determine whether low income and high income housing projects are assessed differently in relation to ecological justice principles.
- To assess how successful the scoping process is in addressing principles of ecological justice.

The implementation and consideration of these principles were measured in two ways. First, it was measured by conducting interviews with the key role players in relation to broad development and environmental decision-making processes. Second, the principles were measured by analysing two housing development case studies and questioning how the development of these projects took ecological justice principles into consideration. The interviews were used to test the appropriateness and success of the scoping process as a tool to facilitate the consideration of ecological justice.

Sustainability is achieved by the measuring and balancing of the social, economic and the ecological dimensions of the environment. The research did investigate how the interviewees prioritised these three dimensions and, in particular, what role and importance the ecological dimension played.

The methodology of the research was qualitative in nature. Interviews were conducted with the relevant role players. These role players included the provincial authority that approves the scoping reports, the consultant that prepares the scoping reports, the developers that propose the developments and appoint the environmental consultants and lastly, the local authorities that comment on and endorse the environmental scoping reports.

South African legislation and policy is very progressive and does address ecological and social justice. However the implementation of these principles on projects on the ground is problematic.

This study will assess how environmental consultants and the government officials approach and consider scoping reports for low cost and high income housing projects. It will determine the differences in environmental assessments when providing housing for the poor and housing for the wealthy and whether ecological justice is addressed in either of them. It will also investigate whether there are discrepancies in addressing ecological justice between the two forms of housing, and if that is a cause of social injustice.

The second chapter investigates the theory of sustainability and ecological justice. The third chapter summarises the South African legislation that relates to housing developments and environmental management. The fourth chapter provides the case studies background of the two housing projects. The fifth chapter explains the research methodology and the sixth chapter analyses the data. The seventh chapter make some final conclusions and discuss the way forward.

## CHAPTER 2: CONCEPTUALISING ECOLOGICAL JUSTICE

### 2.1 Introduction

Ecological justice is a key component of sustainable development. As a developing country, South Africa faces the challenge of attempting to manage and narrow the considerable gap between the wealthy and the poor. On the one end of the scale are the wealthy developing residential properties to improve their living standards. On the other end of the scale are the poor trying to meet their own housing needs through the government subsidy system of provision of low-cost housing projects, with many desperate situations when people are living in informal housing.

This dissertation focuses on the way in which ecological concerns can be integrated into development. It is an assessment on whether humans are fair towards the ecological environment when there is new development.

For the profit-driven developer and the pressurised government official, the term “Ecological Justice” can be seen as an esoteric and irrelevant concept that is impractical to implement or to take into consideration when proposed new developments are assessed. The term can easily be considered as far too “green” and only appropriate to deep ecologists who are seldom taken very seriously. It should be noted that these “greenies” play a very important role in society as stated by McRuer (McRuer in Ophuls et al, 1992, p. xvii);

*“The ‘greens’ may be wistful, impractical, and in some ways hypocritical, but they are the force behind a doomsday debate about the planet’s future. The Conventions assume that human skill can prevail against all - that society can grow forever in wealth and wisdom, and thus in bliss. The Greens invoke conservation laws of nature, warn that humans are not gods, but are entangled in the fate of natural systems.”*

This chapter will consider the theory of ecological justice. Ecological justice is a key component of sustainable development. Accordingly, this chapter will start by explaining the history of sustainable development. This is done to determine what the core ideas behind sustainable development are and how these ideas have changed over time. This section also reflects on how ecological justice fits into the theory of sustainable development. After exploring the concept of ecological justice which leads to the compilation of ecological principles, a comparison is drawn between ecological justice and sustainability. Finally the relationship between development planning, environmental planning and sustainability is explored.

## **2.2 The history and evolution of sustainable development**

The key question which needs to be addressed is whether there really has been a greening of development. The world is at a stage where there is tremendous enthusiasm about environmental issues and the term "sustainable development" is probably used to justify most new developments. This enthusiasm is worthless unless the term "sustainable development", "green development" or "eco-development" are backed up by sound and logical theory and not used as buzz words or rhetoric which supports any development (Adams, 1990).

### **2.2.1 Sustainable development history**

To understand the concept of sustainable development it is essential to investigate how the concept evolved. It is interesting to note that the roots of the concept are planted in ecological protection. The IUCN's World Conservation Strategy in 1980 initiated the concept of sustainable utilisation of resources with the idea that, to ensure the protection of wildlife, it was critical to maintain life support services such as air quality, water quality and biological diversity. It was the first time that the term sustainable resource use was formally expressed in a global context (Turner, 1995). The term sustainability was therefore directly linked to the protection of the ecological environment. O'Riordan (1995, p.50) summarises the key components for sustainable development that were identified by the World Conservation Strategy as follows:

*“i) the maintenance of essential **ecological processes**, of oxygen, carbon, sulphur and nitrogen fluxes governed or strongly moderated by ecosystems, and providing the primary basis for food moderated by ecosystems, and providing the primary basis for food production, health and other aspects of human survival.*

*ii) the preservation of **genetic diversity**, both in the species varieties of local food production as well as for species in the wild to act as an insurance against disease or climate stress, and an investment for further food varieties and genetically modified organisms.*

*iii) the **sustainable development** of species and ecosystems, particularly fisheries and other wild species which are cropped, forests and timber resources, and grazing land.”*

It is obvious from the above that this strategy is founded on ecological principles. Natural resources are very important to humans from a utilitarian and economic perspective. The strategy is based on the ethical understanding that wildlife was there before human beings and has the right to exist (Turner, 1995). Accordingly, one can argue that the concept of sustainable utilisation was partly based on the principle of ecological justice.

O’Riordan (1995) stated that the World Conservation Strategy had three critical shortcomings in its promotion of sustainable development. Firstly it did not sufficiently and practically address the relationship between conservation and development. Secondly, it disregarded neo-Marxist political interpretations of science, conservation and development that required the creation of new wealth to create power. Thirdly, it did not take into consideration the current structures of power that promoted inequality and poverty in today’s society (O’Rordian, 1995). For any strategy of conservation and sustainable resource use to be successful, it must take the political economic driving forces of society into consideration. As Adams (1990, p.92) states:

*“Environmental prescriptions for development, shorn of any explicit treatment of political economy, can have a disturbing naivety.”*

In simple terms it can be said that the World Conservation Strategy did not take the role that the economy plays in the environment into consideration (Mannion et al, 1992) As a result, the term sustainable development was reconsidered and developed to include social and political dimensions.

The next evolutionary step in the growth of the concept of sustainable development was the notion of ecodevelopment. The principles of ecodevelopment are the provision of basic needs, community participation and the encouragement of the use of appropriate or intermediate technology. These principles played an important role in the modern version of sustainability (Turner, 1995).

In 1987 the Brundtland Report "*Our Common Future*" was published and placed the issue of sustainable development more firmly on the international political agenda. This report's requirements for sustainable development were as follows (Brundtland, 1987, cited in Turner, 1995, p53);

- 1. A political system that secures effective citizen participation in decision-making.*
- 2. An economic system that is able to generate surpluses and technical knowledge on a self reliant and self sustained basis.*
- 3. A social system that provides for solutions for the tensions arising from disharmonious development.*
- 4. A production system that respects the obligation to preserve ecological basis for development.*
- 5. A technological system that can search continuously for new solutions.*
- 6. An international system that fosters sustainable patterns of trade and finance.*
- 7. An administrative system that is flexible and has the capacity for self correction."*

The first most widely known definition for sustainable development was also published by the Brundtland Commission in 1987 (Brundtland Commission, 1987, cited in Wahaab, 2003);

*“Sustainable development seeks to meet the needs and aspirations of the present people without compromising the ability to meet the needs of the future generations”.*

The Brundtland Report’s main vision for sustainable development was a bid for economic policies and growth to maximize growth to a level that did not exceed the natural resource base’s carrying capacity or compromise vulnerable people’s ability to survive (Mannion et al, 1992). The World Bank took this definition further and clearly states that it is not just sustainable development but environmentally sustainable development that needs to be achieved. It has been defined in terms of three clearly distinguished but interrelated measures as follows (Wahaab, 2003, p56):

- “1. Economic and financial sustainability: growth, capital maintenance, efficiency of use of resources and investments.*
- 2. Ecological sustainability: ecosystem integrity carrying capacity, and the protection of species, biodiversity and natural resources.*
- 3. Social sustainability: equity, social mobility, social cohesion, participation, empowerment of people, cultural identity, and institutional development.”*

This model originally based on these three interrelated measures, is described as the systems perspective on sustainable development. A fourth aspect of institutional environment has been added and the model is illustrated in Figure 2.1 below. The point at which sustainability is achieved is where the social, economic, institutional and ecological environments overlap. But it should be noted that the ecological environment should be the baseline condition for sustainable development. It is worth exploring these four interrelated but separate parts of sustainable development in more detail.

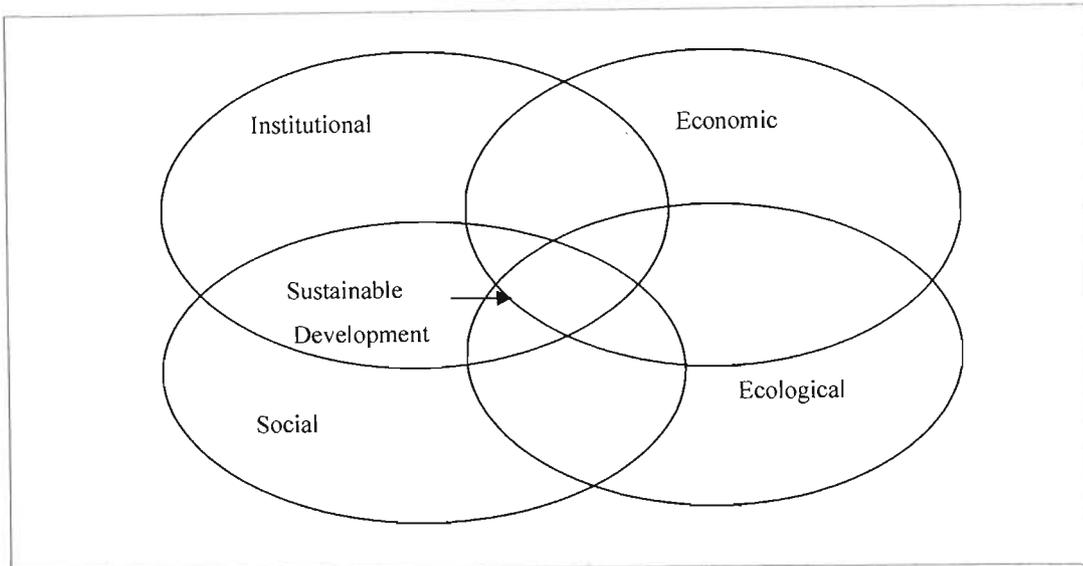


Figure 2.1 the balancing act

This will assist in developing an understanding of how each of these interrelated parts plays a significant role in the achievement of sustainable development. It should however be remembered that the concept of sustainable development is founded on ecological scarcity.

### ***Ecological Environment***

As was stated previously the ecological component consists of the maintenance of the integrity of ecological processes, ecosystem integrity, carrying capacity, and the protection of species, biodiversity and natural resources (Wahaab, 2003). McHaire (1969) states that the ecological environment's character should be accepted by humans as a process that is interacting, that responds to laws and that it also represents values and opportunities for human use. Of course there are certain limitations and prohibitions to this. He further explains that when these processes and laws are understood and respected their human interaction with nature will lead to far more harmonious developments. In his book "Design with Nature" McHaire wrote at the end of the 1960's and it can be determined that even though the term "sustainable development" was not cognitively evolved at that stage, he implies that if one does not give consequential consideration to the ecological environment one sets oneself up for unsustainable and even disastrous development.

This is echoed by Adams (1990, p 144) in his statement:

*“The central argument is that ecology has a direct bearing on what can, or should, be done in development. If the “lessons” of ecology are ignored, “entirely” unexpected consequences can result from what are intended to be straightforwardly beneficial activities.”*

He explains that the use of ecology in development planning has the expanded effect and purpose of enhancing the goals of development and foreseeing the effects of development activities on natural resources and processes of the larger environment. It therefore assists in managing the positive and negative cumulative impacts of developments (Adams, 1990)

### **Social Environment**

The social environment incorporates aspects such as equity, social mobility, social cohesion, participation, empowerment of people, cultural identity, and institutional development (Wahaab, 2003). Sustainable development should address the social environment and should not marginalise the poorest people of society even further.

Mannion (1992) states that truly sustainable development will do far more to uplift the poor than what welfare states have attempted to accomplish. Instead of just providing for the needs of the poor it should assist the poor in providing for themselves into the future. The provision of housing provides one such example. Governments do not often recognise the role informal settlements play in the social infrastructure of the city, not to mention the role these settlements play in forming the city. Hardoy et al (P. XIII, 1989) states this very clearly as follows:

*“It could be said that the unnamed millions who build, organize and plan illegally are the most important organizers, builders and planners in Third World cities. But governments do not recognize this, they do not see these people as city builders, indeed they usually refuse to recognize that they are citizens with legitimate rights and needs for government services”.*

It is therefore critical, that to achieve sustainable development the social dimension in the environment has to be addressed. The provision of physical social services such as community centres, schools hospitals and parks are critical foundations for development. It is suggested that social services should be taken further and life skills should be developed. This will help people to take ownership of their lives and environment. It will also build an understanding about the importance of the ecological environment. Development is not possible without addressing the social dimension Hardoy et al (1989).

### ***Economic Environment***

The idea of uplifting the poor is interrelated with the economic environment. The economic environment consists of growth, capital maintenance, efficient use of resources and investments (Wahaab, 2003).

Malcolm Gills (cited in Bormann et al, 1991) explains that economics has its roots in moral and ethical philosophy. Economics is based on the value judgement that individual preferences should count in the allocation of societies' scarce resources. This is practised by most economists but not always admitted. Sustainable development theory expects economics to address the ethical issue of how many resources can be used to ensure that future generations also have use of these resources. It is an inter-generational ethic that should be addressed by today's allocation and consumption of scarce resources. Gills further states that good economics is not only good ecology but indeed is required for good ecology. The differentiation that is perceived to be between economics and ecology is false and has endured mainly because of bad economics. He also shows the dependence of economics on the ecological environments by stating that:

*"...major ecological disasters have been almost always economic disasters, even though the reverse is not generally true."* (Malcolm Gills cited in Bormann et al, 1991, p158 )

It is clear that ecology and economics should not be separated and that the ecological environment should be the foundation for informing economics. Adams (1990) also makes us aware of the fact that environmentalist prescriptions for

development can be disturbingly naive should they ignore any definite treatment of political economy.

### ***Institutional Environment***

The role of the institution is an overarching one in the achievement of sustainable development. The term "institution" refers to the governmental and administrative structures that have to implement policies and legislation relating to sustainable development. They play a critical role in the facilitation of development on all levels. If these institutions are weak with regard to the role and the support they provide, there will be little or very slow movement towards sustainable development.

The challenge in achieving sustainability in practice is to find the balance between the social, economic, institutional and ecological components. Low and Gleeson (1998) state that sustainability encapsulates the idea that not all development is bad but that there could possibly be a win-win solution when aspects of the four components for sustainability are addressed. It should again be emphasised that the term sustainable development most commonly is used in making reference to ecological sustainability. This is because there is acknowledgement that the ecological resources on earth have limits. Hardoy et al (1989) breaks environmental degradation into three categories namely:

- 1) The exhaustion in the quality and/or quantity of all resources used in consumption/production activities.
- 2) The contamination of the earth's waste-absorbing capacity which limits its ability to breaking down of waste.
- 3) The decline in biodiversity, and the loss of certain types of resources all together.

Sustainable development should therefore have the goal of addressing all three of these categories of degradation to maintain its ecological base.

The sustainability concept has been criticised firstly for its synthetic nature. It pulls together diverse ideas and blends them into a whole without proper review. Sustainability advocates often claim a unity for sustainable development, while the

true strength of sustainability is in its thinking which is its robust and diverse heterogeneity. Secondly, sustainable development just adopted the fields of social and economic development, without ever discussing the social or political theory that it supports. This is problematic since the concept of sustainability may then be used in different social and economic contexts in a possibly inconsistent manner (Adams, 1990). On the other hand this could be seen as an advantage that makes the implementation of sustainable development acceptable to everyone and adaptable to all social and economic contexts.

It should also be noted that to achieve sustainability at a local scale is very difficult, because it is difficult to achieve a balance between development and resource-use especially in the urban context. But to consider it on a global scale is more viable because the effect of resource use versus development can be balanced out. However, it requires local action to facilitate the balancing of the scales, hence the creation of the concept “Act Locally and Think Globally” (Mannion et al, 1992).

### **2.3 The history and evolution of ecological justice**

It is perceived that humans have grown to be more conscious over time. Along with this, people started to define their relationship between themselves and the rest of the world. And out of that grew the concept of justice, which also evolved over the years. It first started with social justice, then developed awareness of the impact of the environment and how this impact affected human life. That led to the development of environmental justice and from there the concept of ecological justice has been formed. To understand ecological justice it is worth considering how the concept of justice has evolved. Low et al (1998) state that the philosophical bases of justice is founded on the following three fundamental principles;

1. Justice is giving and getting what is *deserved*;
2. Justice exists in *rights* being respected; and
3. Justice requires that everyone's *needs* be met through their contribution according to their abilities.

### 2.3.1 Social justice

In 1948 the United Nations accepted the Human Rights Declaration (Low et al, 1998, p. 54):

*“All human beings are born free and equal in dignity and rights, they are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.”*

Low et al (1998) distinguish between four theoretical systems that the philosophy of social justice is based on. These theoretical systems are:

- 1) **Utilitarianism:** that is the moral theory that judges the goodness of outcomes. It is the balance between pain and pleasure. It also advises as to how social action should be evaluated including, whether people are getting what they prefer; any public course should be judged by its consequences; and the welfare of society is determined by calculating the sum of each individual's welfare.
- 2) **Contractarianism:** that are the ethical rules that regulate social interaction to the decrees of political rule making. The core principle is that the concept of the “right thing” should prevail over what is seen as the “good thing”. Contractarianism or the theory of justice must regulate the inequalities in the prospect of life that originate from different social starting points, natural advantages and historical contingencies.
- 3) **Communitarianism:** where utilitarianism and contractarianism endeavour to reduce the elements of moral imperative it is the goal of communitarianism to bring it back and place it in the heart of the moral community. The promotion of the community concept is based on the idea that to achieve individualism and self determination there should be a supra community promoting concepts such as duty, care and responsibility.
- 4) **Discourse Ethics:** is placing the emphasis on the role that free public dialogue plays. It emphasises the role that people play as agents in the process of devising moral principles.

The fundamental underlying principle of all these theories is to redistribute aspects of wealth and political power to all people where an unequal distribution exists. This unequal distribution is particularly visible in developing countries where the gap between the poor and the wealthy is continually increasing. Robert McMamara (McCormick, 1995, p.185) the President of the World Bank defines the absolute poor as follows:

*“a condition of life so degraded by disease, illiteracy, malnutrition and squalor as to deny its victims basic human necessities, a condition of life so limited as to prevent realization of the potential of the genes with which one is born; a condition of life so degrading as to insult human dignity.”*

The problem with social injustice is the effect on the ecological environment. When there is injustice among humans it will be very difficult to achieve justice towards nature, which requires a higher level of consciousness and understanding of justice. The sustainability debate also suggests a social justice or moral consideration/obligation to future generations. It is linked with ecological justice because the concern for future generations is related to the preservation of resources for these generations. This concern is in line with eco-humanist arguments, because these are concerned with the survival of the human species but seeing species as a part of the greater ecosystem (Martell, 1994). It can be argued that sustainability and ideas about social justice are intellectually linked with deep ecological theory and ecological justice. Before opening the discussion on ecological justice, the next evolutionary step on the path to ecological justice should be discussed, namely environmental justice.

### **2.3.2 Environmental justice**

Environmental justice is concerned with the equal distribution of good and bad environmental conditions. Social values play an important role in the identification of the nature of the good and bad environmental conditions and human contentment with them. This distribution takes place on two levels; within each nation and on a global scale (Low et al, 1998). They further explain environmental justice in terms of

two aspects. Firstly, they describe how environmental justice is developed on a social-spatial justice position. Since the 1960's justice-related concepts were applied in the analysis of spatial patterns. This included the understanding of how certain institutional mechanisms such as planning zoning schemes were used by the state and the privileged classes to keep noxious and unsightly land uses away from the areas that they occupied. Secondly, they discuss how environmental racism occurs when minority groups are often burdened with living closest to environmental pollution.

On the global scale poorer countries are often viewed as cheap solutions for the dumping of toxic waste. This is possibly as a result of globalisation and free trade agreements. Often these poorer developing countries have less stringent laws relating to toxic waste. As a result, some of the developed richer countries dispose of and store their waste in some developing countries and thereby avoid their own country's strict regulation (Low et al, 1998). This leaves the people in poorer countries even more vulnerable. This injustice can be managed by international treaties and laws but unfortunately these treaties and laws have often been difficult to enforce.

On the other side, environmental organizations in their cause to protect the environment often get criticised by industrialists and some developing countries because what they promote actually causes environmental imperialism on the part of conservationists in developed countries. Environmentalism is viewed by these developing countries as an indulgence of the rich. These countries perceive the need to overcome poverty in the short term as more important than long-term conservation. They argue that conserving the environment should not take priority over the socio-economic status of the poor and their right to have access to resources such as tropical forests. Although this is an important point it doesn't carry much weight in instances where the poor do have access to the resources and do harvest it, but they themselves see very little of the profit and the wealth generated from the resources. The initial destruction of that forest or resource cannot be seen as creating better income distribution between the wealthy and the poor and does not provide real upliftment in low socio-economic circumstances (Bormann et al, 1991). This shows how complex the debate for environmental justice is.

Environmental justice is clearly anthropocentric in nature and the ideas behind it fit very comfortably with shallow ecological discourse that is also interpreting the ecological environment in terms of human values and experience. This will be better understood by considering ecological justice and ecological philosophy.

### **2.3.3 Ecological justice**

To appreciate the significance of ecological justice and its role in ensuring sustainability, it is essential that the meaning of 'ecological justice' is clearly understood. If clearly defined, it can be used by the relevant role players as a barometer and tool for the measurement of the appropriateness of what is proposed and approved in developments.

The way we see ourselves connected to the non human world will determine how we treat this world, and that is the basis for determining ecological justice. Ecological justice requires that there is an extension of the self (the human species) to also incorporate the non-human environment (Low et al, 1998). To be able to define what ecological justice is, it makes sense to unpack the word "ecology". "Ecology" is defined in the universal dictionary as (Readers Digest, 1988, p. 489);

*"Ecology; - The science of the relationship between organisms and their environments"*

"Justice" is defined as;

*"Justice; - Moral rightness; equity - The quality of being just and fair or in conformity of what is right and legal"* (Readers Digest, 1988, p. 489).

By combining the two definitions it makes sense to define ecological justice as follows;

To be just and fair towards the integrity of the relationship between organisms and their environment.

However, this definition does not emphasise the fact that the relationship between organisms and the environment is not just individual interactions but that these

interactions are all part of a system that supports all life. Low et al (1998) explains this in more detail, based on the ideal that humans reach their highest level of self realisation in relation to the natural world it is suggested that ecological justice is;

*“ ...that every natural entity is entitled to enjoy the fullness of its own form of life.... and....that all life forms are mutually dependant on non-life forms.”* (Low et al, 1998, p. 156)

This is a clear extension of moral consideration to that of non human life forms. To ensure ecological justice the system/systems that support life should not be compromised. Ophuls et al (1992) explain that the role of the ecologist is to try and understand the process of life in the context of the chemical, geological, and meteorological environment by assembling the isolated knowledge of specialists into a single ordered system. They continue by explaining that a systems ecologist tries to reveal the general principles that govern the operation of the whole system called the biosphere, the part of the planetary system that contains or influences life. It would therefore be irresponsible to not consider how the entire ecological system achieves ecological justice, and not just ecological justice with regard to the individual interactions of organisms in their environments.

This however does not explain how justice should be served towards the environment. It should be asked; “Who speaks on the behalf of the environment and do they have the right to do so?” Pepper (1996) explained that deep ecologists see humans as being part of nature, as one of its constituencies and that humans cannot be the negotiators of the value of the rest of nature. He further explained that biological egalitarianism demands that humans respect all living and non living beings. This implies that if all living creatures deserve equal consideration as they fit into the same entirety (Pepper, 1996)

If humans have to respect these beings, it also implies that these beings have certain rights. If humans are part of a whole, who are they to place the judgement of value on other beings? Pepper (1996) further states that although the biological egalitarian concept states that all living things deserve equal consideration, it is difficult to justify because of the other accepted principle by deep ecologists that through evolution

humans have become the most conscious life form on earth. Humans have a responsibility to speak on the behalf of nature that cannot speak for itself. It leaves the question whether all beings should then be considered equally (Pepper, 1996). But it can also be argued that although humans are consciously more advanced than other species it does not mean that they have more value than other species, especially if humans' behaviour as a species is threatening the existence of all other species including themselves.

This implies that all humans have the responsibility to ensure that justice will be served for the environment. And this should be implemented through social, economic and political structures.

The realities of ecological scarcity and limits to growth are dominant driving forces behind the environmental movement. Although there are serious debates about these two concepts, the fact remains that the law of entropy prevails, each year there are fewer natural resources and usable energy available, and there is more pollution (Earth Economics, 2006).

Legislation and policies that are in place to manage the environment have to be of such a nature that ecological scarcity is effectively addressed. Ophuls et al (1992) argues that the reality of ecological scarcity has made existing political systems that only address ecological problems through reformist policies ineffective. Reformist policies can optimally only delay the day of reckoning/ultimate ecological disaster. He states that America needs a completely new political philosophy and political institutions that will be able to deal with ecological scarcity. Even the ideology of modernity and central doctrines such as individualism are no longer feasible (Ophuls et al, 1992).

The concept of ecological justice is not a mere reformist ideal, it facilitates the idea that the ecological environment has fundamental rights and it challenges all conventional ideas about ethics and the conventional way that humans interact with the environment. For legislation or development goals to go beyond being merely reformist it is critical that they address and incorporate the principles of ecological justice.

To get clarity on what is seen as reformist ideologies versus ideologies that facilitates radical intervention, there is a need to distinguish between shallow ecology and deep ecology.

### ***Shallow ecology***

The shallow ecology view is based on utilitarian principles. This implies that nature is seen as subservient to humans and is there mainly for the use of humans. Pepper (1996) states that shallow ecologists consider that humans and nature are separate, and that satisfaction of human needs is dominant. The universe is viewed from an anthropocentric perspective implying that the earth is instrumental in meeting our human needs and that all human concerns are met by nature.

Shallow ecology suggests that humans are the sole reference point of value and that there is no intrinsic value in nature. Value is a human-created concept and is only related by humans to nature. Technocentrism forms part of the shallow ecology view as Pepper explains (1996, p. 38);

*“Technocentrism recognises environmental problems but believes either unreservedly that our current form of society will always solve them and achieve unlimited growth (the interventionist ‘corcopian’ view) or, more cautiously, that by careful economic and environmental management they can be negotiated (the ‘accommodators’). In either case considerable faith is placed in the usefulness of classical science, technology, conventional economic reasoning (e.g. cost-benefit analysis), and the ability of their practitioner”.*

It is clear that technology is seen as a solution to all environmental problems. Ophuls et al (1992) argues that technological fixes for ecology also have social implications. An example of this is the use of nuclear power that seems like an unlimited source of energy but has a huge price tag attached to it in the form of the radioactive waste that is caused by the production of the power. The social costs that are attached to this technology are the responsibility to ensure that waste is managed in a safe manner (Ophuls et al, 1992). But technological solutions are often solutions for humans and our survival and not always the best solution for the survival of our

ecological environment. Technology does not focus on enhancing the ecological environment but rather on replacing it.

He also argues that in the hands of humans, technological solutions can never be neutral and will always be used in either a good or a negative way. There is also the danger that technological fixes are substituted for political decisions (Ophuls et al, 1992).

This shows that the humanistic technological approach can be used as a plug for bad decision-making. It should therefore be implemented very carefully when developments are taking place. This research will consider whether appropriate technology is being used in land developments and that these are in line with the principles of ecological justice.

It is argued that having a humanistic ethical approach towards the environment has not proven to ensure sufficient protection of the environment as Rolston (in Bormann et al 1991, p.78) states:

*“...environmental ethicists who seek only to extend a humanistic ethic to mammalian cousins will get lost. Seeing no moral landmarks, those ethicists may turn back to more familiar terrain. Afraid of the naturalistic fallacy, they will say that people should enjoy letting flowers live or that it is silly to cut drive-through sequoias, that it is aesthetically more excellent for humans to appreciate both for what they are. But these ethically conservative reasons really do not understand what biological conservation is in the deepest sense”.*

It can be argued that a shallow ecological stance towards ecological justice and the protection of the environment will not ensure that there will be sufficient collective consciousness and an important enough paradigm shift in the way society operates on a social, political and economic level to ensure that sustainable development will be possible. This can be further explored by understanding what the views of the deep ecologists are and how these views should be the underlying principles for ecological justice and the consequent insurance of sustainable development.

## **Deep ecology**

Deep ecology is made up of many diverse ideas and principles making it difficult to narrow down. Deep ecology is concerned about nature and the whole ecosystem in its entirety. This can be defined as an ecocentric perspective. The deep ecologist's ethics are based on bioethics that present that nature has intrinsic value, thus stating that nature has its own worth regardless of its use value to humans. Based on this, humans are morally required to respect all forms of life (Pepper, 1996). Nauss (cited in Pepper, 1996) explains that it is unacceptable to view the world as being composed of separate things and that all organisms forms part of a biospherical field of intrinsic relations.

In deep ecology there will never be an assumption that development is needed. One of the first questions a deep ecologist will ask is "do we need this?" (Pepper, 1996) It is clear that deep ecology objects to consumerism and that there is the firm belief that there are limits to growth. As mentioned above, one of the fundamental principles of deep ecology is the idea that nature has intrinsic value. The Readers Digest Universal Dictionary (1988) defines intrinsic as belonging to the essential nature of a thing.

Intrinsic value has three parts to it, firstly it signifies non-instrumental value implying that nature is not a means to an end but an end in itself. Secondly, nature does not just have value in terms of its relationship to other entities but in terms of its own properties. Thirdly, there is value in nature notwithstanding those who might value it. So nature would still have value even without a human presence on earth. In practise these three meanings overlap and are not always easily distinguished (Pepper, 1996).

Rolston (cited in Bormann et al, 1991) argues that it could be problematic to observe intrinsic value in the holistic web when intrinsic value is interpreted as the value of an individual for what it is in itself. He therefore argues that the intrinsic value of an entity should be used as a part of a whole and should not be fragmented by valuing the entity in isolation. Pepper (1996, p.23) complicates the concept of intrinsic value further by stating:

*"If humans are part of a total reality composed, basically of the same stuff, then deep ecology says they are just one constituency among*

*others in the biotic community: one stand in the web of life. The person is not above or outside of nature, but is part of a creation on-going. Therefore the value of other creatures and things in nature is not to be fixed by humans”.*

If humans as a species are mature we will not consider ourselves more worthy than other things in nature and will start accepting our reliance on nature. We cannot survive without the environment, even with extraordinary technological intervention.

Another deep ecology principle is that of biological egalitarianism. As mentioned before it implies that all living things have equal value, and that there should be no discrimination among species. As a principle to be incorporated in justice and rights this is very difficult given that species depend on each other for survival. Thus to use the principle of biological egalitarianism as a principle for justice is rejected (Low, 1998). But this does not mean that if the one uses the other for survival that they do not have equal value. In fact it can be argued that if I need you to survive but you do not need me to survive, who is the one with more value? So to be radical, for the sake of humankind we are fortunate to be valued equally to the species we depend on for survival. But rights and justice should not just be based on the value of needs. In deep ecology the role of technology is not denied but limits are placed on the scale and level of intervention. Technology is not seen as the solution to current environmental problems. Technology should enhance protection and should not be used in place of social change. Technology is only a tool and not a means to ecological rehabilitation of the earth. It is therefore seen that appropriate technology is accepted (Pepper, 1996). The fact that they accept the role that technology can play in society gives deep ecology philosophy a better chance of being accepted on a social and political level.

Deep ecology has a variety of ways of looking at how humans form part of nature. These include ideas such as Gianism, holism and the 'total field view' which are all related in terms of seeing humans as part of nature on some or other level. Pepper (1996) also states that humans should live with the natural rhythms and not against them.

Deep ecology can be summarised as follows;

- Deep ecologists will always ask "do we need this?" due to limits to growth.
- The dualistic view that humans and nature are separate is rejected and humans form part of the natural environment.
- Nature has intrinsic value.
- Biological egalitarianism.
- Acceptance of appropriate technology.

By looking at the principles of deep ecology it is clear that the concept of ecological justice can be comfortably placed in the philosophical ideas of deep ecology. Deep ecology has one clear set of values which relates directly to the ecological environment. Pepper states (1996) that although deep ecologists have a relativistic stance towards social values, they do promote a clear set of "exact" attitudes distinctly based on the laws of ecology that are shared by all cultures.

It is necessary to take the principles of deep ecology further and link them more clearly with ecological justice. Low et al (1998, p.139) explain how ecological justice requires an extension of the self as follows:

*"Ecological justice is a different matter. Here we have to consider the meaning of environment in a deeper sense, the sense of our moral relationship with the non-human world. Of course the two senses are related in that the value of the environment is changed and considerably extended if the relationship is not just as an instrumental one but a moral one".*

This extension of the self and extension of the moral relationship is at the core of the deep ecology philosophy of seeing humans as part of nature and not separate. This requires an evolutionary process in society today. Brand (2004) advocate that people's behaviour can change especially if the desired change is promoted as something that is sociably desirable. Leopold (cited in Low et al, 1998, p139) implies that this is through the instilment of a land ethic that requires a change from conqueror of the land to plain members and citizens of it. It requires that there is respect for fellow members of society and respect for the earth. He defines an ecological conscience as:

*“.....an internal conviction of individual responsibility for the health of the land.”*

His classic statement of the land ethic is simple (Leopold cited in Low et al, 1998, 139):

*“A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community”.*

This raises an aspect of ecological justice that has not received a lot of coverage in the literature and that is the preservation of what is seen as an ecological sense of place. The idea of ecological sense of place links with the concept of the wilderness experience. To make ecological sense of place as an ecological principle it should be understood that it is not just an aesthetic human need and desire to link with nature. Ecological sense of place implies that the ecological integrity of an area is maintained. It also means that the ecological feel of the area is maintained. This requires that should development take place, it is not intrusive and the ecological integrity of the landscape should be maintained. Should there be rehabilitation; indigenous and especially endemic plants should be used. This study will focus on the extent to which the ecological sense of place has been maintained in environmental decision-making on housing projects. Pepper (1996, p. 26) also links this with geography and deep ecology and states:

*“It features decentralised, small scale, autonomous, self-reliant regions and communities. This emphasises ‘reinhabitation’, that is re-learning a sense of place - feeling part of that place and its community, caring for it, and appreciating and enhancing its unique sense of identity”.*

The final aspect that needs to be highlighted with regard to ecological justice, is the acknowledgment that although science is well developed it is neither perfect nor complete. To determine certain aspects such as when we have reached the carrying capacity of a particular ecological environment is very difficult and even sometimes impossible. Accordingly, the precautionary principle should be implemented. This was originally a German principle and it emphasises the burden of proof of environmental safety (of the action) (Low 1998).

It is clear from the above that as Pepper (1996) states, our dependence on natural resources and our current relationship with them will require radical social change. He believes that this social change of the society-nature relationship, cannot be fundamentally transformed within the existing social structures. He further states that in the deep ecological view, social change focuses on altering individual consciousness, with the focus on the individual to live in harmony with nature. This takes courage and is a challenge because it is not the socially desirable thing to do as Rolston states (cited in Bormann et al, 1991, p.79):

*"It takes ethical courage to go onto, to move past a hedonistic, humanistic logic to bio-logic".*

He explains that human feelings such as pain, pleasure and psychological experiences are not useful categories but one should rather use less ethically determined categories in biology such as logic, proportioning cognitive and normative (cited in Bormann et al, 1991, p.79).

*"Nothing matters to a tree, but much is vital to it".*

Environmental ethics challenges the separation of science and ethics by trying to transform science that finds nature value-free and an ethics that assumes that only humans count morally (Bormann et al, 1991). But Ophuls et al (1992) makes a very valid remark by pointing out that "the converted" are receptive to philosophical, ethical and spiritual arguments, but to bring the politicians, scientists and the bureaucrats that make the decisions that influence the future on board, a primarily empirical and scientific or agnostic approach will have to be implemented. This will mean putting aside the question of values, to find instead what is possible giving the natural laws that govern our environment.

Ecological justice can therefore be seen as a critical requirement in ensuring that life on earth will be preserved. As implied by the above it will mean fundamental changes to how society's political and economic structures are operating. The principles of ecological justice are summarised below.

### 2.3.4 Principles of ecological justice

The core problem with marrying deep ecology and justice, is the fact that deep ecology is not human-centred and justice is a human principle, determined and practised by humans. But the concept of ecological justice forces one to extend moral and ethical values to incorporate justice toward the non-human environment. This is critical if we are seeking sustainable development or developments that are ecologically just. If we do not act justly for the sake of the ecological environment we do not really value this environment. Therefore it will not be possible to give it its rightful status during any development process.

From the above discussion relating to deep ecology and ecological justice, it can be concluded that the principles of ecological justice can be summarised as follows:

- 1) The question should always be asked; do we need this development or project?
- 2) Nature has intrinsic value.
- 3) Humans should have minimal intervention/disturbance into nature and its processes.
- 4) Ecological integrity should be maintained.
- 5) There are definite limits to growth due to scarcity of resources.
- 6) Inter-generational equity should be achieved.
- 7) Equal consideration of the ecological environment and its integrity.
- 8) The precautionary principle should be upheld.
- 9) An ecological sense of place should be kept or restored. These will include aspects of rehabilitation, alternative forms of energy, alternative forms of building material, building design and site design.

It is important to realise that there should now be a vehicle to implement these ecological justice principles. Seeing that life does not consist just of an ecological environment, but also social and economic, this vehicle should consider all aspects of life but should have ecological protection and management at the heart of it. As Ophuls et al (1992 p.8) state:

*“The basic political problem is the survival of the community; two of the basic political tasks are the provision of food and other biological*

*necessities and the establishment of conditions for favourable reproduction. Neither of these can be accomplished except in the human household provided by nature, and in this sense politics must rest on an ecological foundation”.*

It is logical that the sustainable development vehicle can be used to implement these ecological justice principles. To see how this can be achieved, the development of ecological justice and sustainable development will be compared.

#### **2.4. The integration of ecological justice and sustainable development**

The histories of ecological justice and environmental justice overlap. This is specifically visible from a deep ecological perspective. Figure 2.4 helps to understand the influence that ecological justice have on the development of the sustainable development theory. When looking at Figure 2.4 it is important to understand that the social justice movement has developed from a comfortable concept of justice toward other people to an uncomfortable unpopular point of ecological justice. While the concept of sustainable development has moved from an uncomfortable ecological justice perspective to a more development friendly perspective. In this work of research there is a pursuit for sustainable development to recall its origins in deep ecology and restore it. That sustainable development should maintain a clear bottom line of ecological integrity and justice. It is therefore argued that sustainable development is not possible without the prevalence of ecological justice.

The social justice ideas are for current generations acceptable. This can not be said about ecological justice ideas. Ophuls et al (1992) advise that for the ideas of frontier science to reach down to the “informed public” takes two to four generations. He views it as unreasonable to expect that the public at large to have a complicated ecological understanding at present, particularly if the academic, business and political influential show little sign of comprehending or embracing an ecological world view.

But the developed and sound deep ecology and ecological justice concepts have now been with us for at least four decades and they were mentioned long before that. It is time that these concepts should be part of everyday decision-making if we want

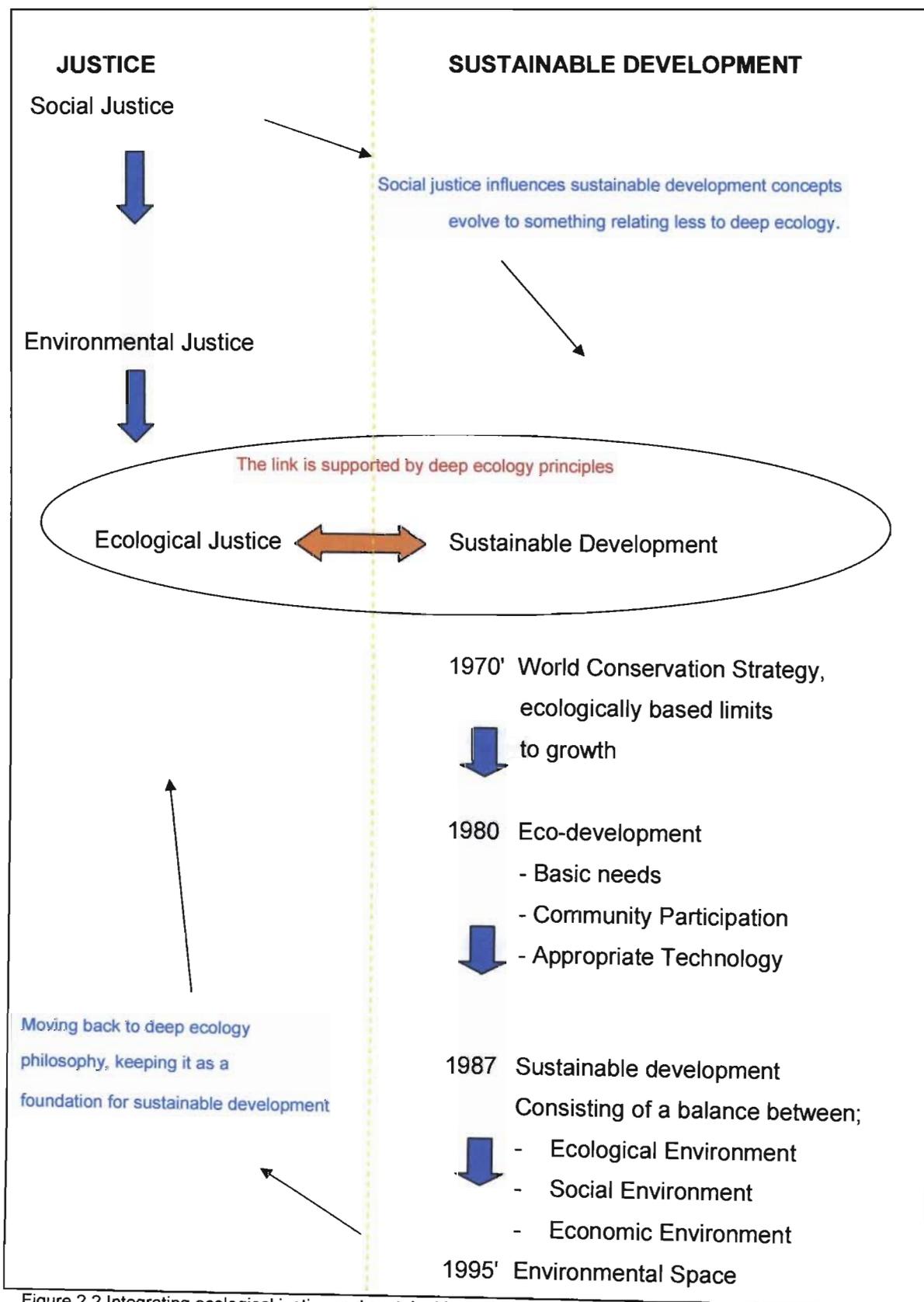


Figure 2.2 Integrating ecological justice and sustainable development.

to see sustainable development work. To get a clearer understanding of how sustainability should influence development, the role of sustainable development and environmental management in town planning decision-making should be explored.

## **2.5 Sustainability and town planning**

The impact of development in the local context should be clearly understood and it is therefore essential to have a brief look at the development implementation aspect on a local government/ town planning scale. The strategic plans and policies of cities which include urban plans, building and planning norms, and codes and regulations and the extent to which they are implemented has a direct impact on the energy and resource consumption of cities. These policies and plans and the implementation thereof directly impact on how land is utilized and play a key role in any national strategy which promotes sustainable development. Local municipal governments therefore play an important role in any successful strategy to implement sustainable development (Hardoy et al, 1992).

Unfortunately the term sustainability has often been misused and abused and as O'Riordan (1990) comments, that under the auspices of sustainable development almost any "environmentally sensitive" programme can be established.

That is why this study is focussed on reassessing the environmental legislation and investigating whether new developments are truly considering the ecological bases for sustainable development. Hardoy et al (1992) advises that when new developments or activities are assessed and appraised on their level of sustainability they should meet the following criteria:

- 1) The activity/development does not damage natural resources substantially. It should be ensured that the same quantity and quality of the resource are available for future use as if the project had never happened.
- 2) Where the activity/development has a negative effect on some natural resources but, possibly has a positive impact on other natural resources the net impact should be judged on a common scale. This could lead to a resource neutral development.

- 3) The development activity does not damage the natural resource required for the completing of the activity itself.

To again show how sustainable development and the understanding thereof vary, it is valuable to look at another interpretation of how sustainable development can be measured. Lee et al (2000) state that whether or not development is sustainable depends on four sets of factors;

- 1) The rate and composition of economic growth.
- 2) The resource and residual coefficients which, taken into consideration with the rate and composition of growth, determine the size of the resource and residual flows between the economic and environmental systems.
- 3) The carrying capacity of the environmental system relative to the resource abstraction and residual discharge flows imposed upon it.
- 4) The responses of society to economic and environmental change.

Lee et al (2000) has a far stronger focus on economic sustainability and the goals are much wider than Hardoy's et al (1992). To measure Lee's goals will be complicated and the results relating to such issues as "the response of society to economic and environmental change" is only measurable over long periods of time. Hardoy's et al (1992) three sustainability criteria are more practical and implementable. This study also focuses on the assessment of the impact on the ecological environment and not that strongly on the economic environment. It is therefore preferable to adhere to Hardoy's et al (1992) three criteria that are ecologically based. Hardoy's criteria are therefore more appropriate to integrate into the analysis of this research. This does not mean that the role of economics is not important but that for the purposes of our study the ecological environment as the base for the theory of sustainable development should be the underlying judging criteria. The most critical acknowledgement that has to be made is with regard to the fact that, to achieve sustainability one has to go through a process of trade-offs between the social, the economic and the ecological. Even though this research is focused on the ecological environment, the role and importance of the social and economic cannot be ignored. Campbell (1999, p. 253) summarise this conflict and balance as follows;

*“...the planner must reconcile not two, but at least three conflicting interests: to ‘grow’ the economy, distribute this growth fairly and in the process not degrade the ecosystem. To classify contemporary battles over environmental racism, pollution-producing jobs, growth control, etc. as simply clashes between economic growth and environmental protection misses the third issue, of social justice. The ‘jobs versus environment’ dichotomy crudely collapses under the ‘economy’ banner and the often differing interests of workers, corporations, community members and the national public”.*

This shows the strong and challenging link planners have with sustainable development and their critical role in implementing it and finding the balance between the different environments. Campbell (1999, p253) illustrates this conflict and process of trade-off as follows:

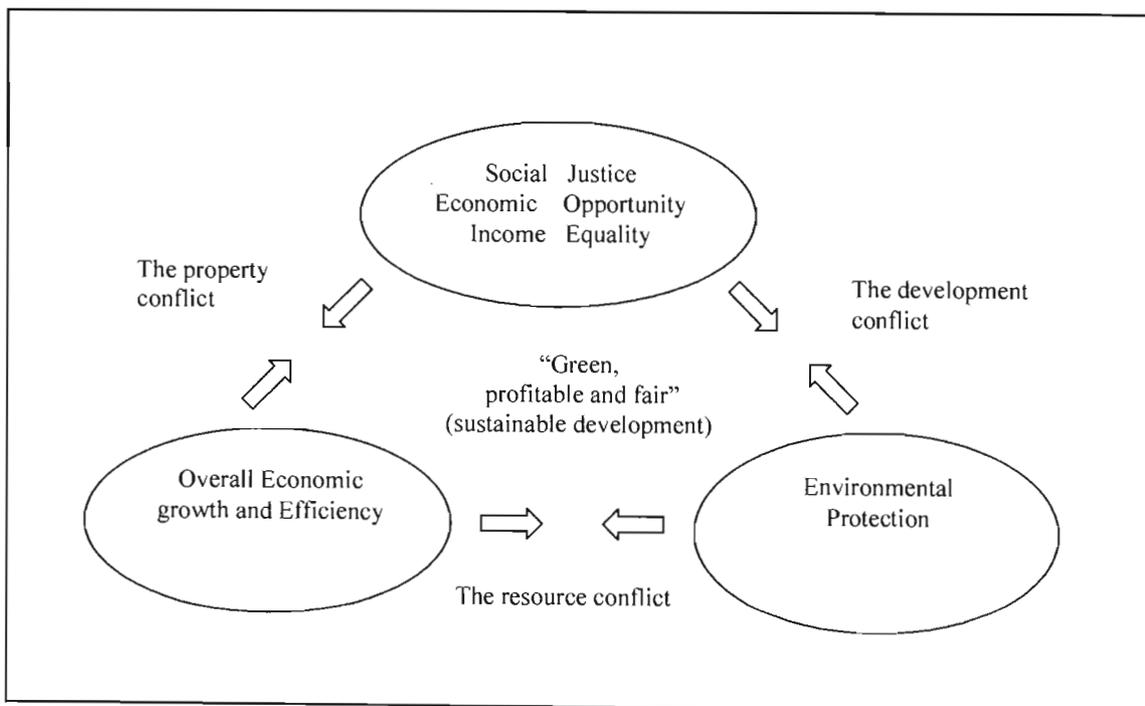


Figure 2.3 the triangle of conflicting goals for planning and the three associated conflicts: Note that the elusive ideal of sustainable development leads one to the centre (Campbell, 1999, p253).

In an ideal world, planners will find the perfect balance between these environments. In this research it will be argued that there is never a balance if the ecological environment does not form the basic foundation and ecological justice is not

sufficiently incorporated into the planning process. This should be the base of the broad sustainability theory. However, this theory has to be brought down to the more detailed context of everyday implementation.

It is critical that environmental and land-use planning should support and inform each other. The ideal is that the environment and its constraints should be the foundation for any form of land-use planning that will take place. Unfortunately this has not always been the case, and in South Africa there is a heritage of bad land-use planning that did not sufficiently value the ecological environment and its functions. This could be due to a lack of knowledge but most probably more because of a modernistic mind set. All over the country there are examples of where planning did not take the ecological environment into consideration. A classic example of this is along the KwaZulu-Natal coastline. Along the Bluff slopes in the Durban area land-use rights were given to portions of land that form part of very sensitive coastal dunes. These portions of land should never have been developed due to the important role they play as part of the shore-line ecology. Dunes are also unstable as they are dynamic and should not be built on.

It has only been in the last ten years in SA that environmental planning really started to inform land-use planning on a strategic and integrated level even though we have had legislation that started to assist with this already for the last 15 years. A good example of this is in the Eastern Cape where bioregional plans were compiled. These plans form the basis for land use planning in the province. In the mid 1990's new planning legislation was promulgated that called for the compilation of Integrated Development Plans (IDP). This created a unique opportunity to review existing land-use and for the use of bioregional plans to inform strategic development plans. This also created better understanding and integration between the town planner and environmentalists. However, just as with the original Durban Metropolitan Open Space System (DMOSS) plan, most of the bioregional plans of the Eastern Cape lack a level of detail to effectively inform land-use planning and individual site constraints (Pierce et al, 2002). (Was stated that I should add SDF's and DFA here- that is inappropriate for this- I will add it to the legislation section)

This lack of detail indicates a gap in the level of environmental plans that still needs to be filled before environmental planning can honestly inform land-use planning. That gap makes the role that the EIA process, and in particular the scoping process, plays in informing the development on a specific site, more critical. Environmental plans should ideally also address the developments of site-specific interaction. The EIA/scoping process is often criticised as being too site-specific and also does not effectively advise ecological design matters.

Ecological design has to be brought down to an even more detailed level. At this more detailed level Mehta (1999) provides guidelines for the planning and design of eco-lodges. These guidelines are also applicable to all new developments and can be used in assessing developments in line with the ecological principles. They are as follows:

- 1) Pay attention to the natural setting and respect vernacular architecture in design.
- 2) Meet the energy requirements through passive design and renewable energy sources.
- 3) Use environmentally sensitive materials wherever possible.
- 4) Employ sustainable construction techniques.
- 5) Educate both the staff and the tourists on local natural and ecological issues.
- 6) Involve and empower the local community in the planning and operation stages.

These guidelines are appropriate for site specific analysis but it again has to be mentioned that the EIA process can never fully address ecological justice if it is focused on site specific-properties only. The definition of the ecological environment makes it clear that an investigation on only one specific site is ecologically flawed because it does not take the whole ecological system/process into consideration. Ophuls et al (1992 p. 20) clearly states this:

*“Each ecosystem on earth must be understood in terms of the interactions of its components. This principle requires ecology to be a synthetic and process-orientated science.”*

For the purpose of this research the scoping process will be investigated. The process is site-specific and it will therefore be questioned whether this environmental assessment tool is able to assess development in terms of the ecological principles even though it is such a site-specific tool.

Adams (1990) criticises the lack of integration of the EIAs in project planning procedures. He also states that EIAs are only as good as the policy frameworks in which they are practised. It is one thing to have an EIA carried out, but another to have it integrated into decision-making. The EIA document is a lengthy document with critical information scattered through it. It is therefore very important that all EIAs must have a summary that can inform decision-makers of the salient issues in a clear and concise way. Adams (1990, p. 150) explains further:

*“Precisely because of the nature of the policy and the political environment in which it exists, it is clear that the extent to which EIA can transform the nature of development to minimize adverse environmental impacts is severely limited. That is the case in developed countries. In Third World countries the lack to minimize adverse impacts are heightened. Due to the nature of developments, impacts are often outside of site boundaries and are not taken into consideration. Impacts are often delayed and it can be difficult to forecast them at the development stage. There is a lack of information because of insufficient databases and a lack of expertise. EIAs are not seen as an important part of the development process and the results are not taken seriously”.*

It is therefore critical that EIAs address environmental aspects that are not just site-related. This makes sense if one takes cognisance of the ecological principles. The EIA process should address the ecological principles to ensure that sustainable development is achieved.

## 2.6. Conclusion

Humans need to position themselves in line with nature in the development of land. Humans depends on nature and as McHairg (1969, p.19) states;

*“Clearly the problem of man and nature is not one of providing a decorative background for the human play, or even ameliorating the grim city; it is the necessity of sustaining nature as a source of life, milieu, teacher, sanctum, challenge and, most of all, of rediscovering nature’s corollary of the unknown in the self, the source of meaning.”*

Sustainable development is seen as the solution for the dilemma of humans versus nature. Sustainability will however only be possible if it stays true to its roots by promoting and complying with the principles of ecological justice. The essence of the principles is to maintain the ecological environment, and its functions as far as possible.

The research questions are based on the ecological principles. The purpose was to determine if these principle were either directly or indirectly considered during the decision-making process.

Are deep ecology and the concept of ecological justice politically naive? The concept is challenged by the pressure to develop. This pressure should also be based on sustainability and there is an urgent need to strengthen ecological principles in sustainable planning if we are to achieve to goal of more sustainable cities.

Now that there is a clear understanding of ecological justice and its relationship with sustainable development and planning, it is necessary to understand the context thereof in South Africa. This is accomplished by firstly looking at South African legislation relating to the environment and to development.

### CHAPTER 3

## SOUTH-AFRICAN LEGISLATIVE FRAMEWORK FOR DEVELOPMENT AND ENVIRONMENTAL PROTECTION

South Africa has more advanced environmental and planning legislation than many other developing countries. The concept of sustainability provides an opportunity for third world countries to possibly develop in a more ecologically friendly manner than what industrialised first world countries had. There is at least a theoretical hope for development in developing countries without the substantial environmental destruction that all first world countries had to go through to reach their levels of development. Whether their levels of development are ideal or realistic is greatly debatable. The sustainable 'vehicle', if driven correctly can be used to address development in developing countries, like South Africa, and help it to set realistic development goals. It could be seen as one of the first real possible solutions for development in developing countries. As Hardoy, et al state (1992, p. 17):

*"Measures taken now to promote healthy resource efficient, minimum waste cities in the South can ensure a high quality of life, without the enormous (and probably unsustainable) levels of resource use and waste generation currently associated with urban centres in the North."*

To understand the context of environmental decision-making it is essential to have an understanding of the legislative framework in which these decisions are made. Over the past 15 years numerous laws relating to urban development and environmental management have been changed and promulgated in South Africa. This legislation can be grouped under the three tiers of government namely national, provincial and local government.

In this section only the most relevant laws and policies relating to planning and environmental management will be discussed. It is however acknowledged that there are far more laws that directly and indirectly relate to urban and environmental management, but discussing them in detail will not add value to the purpose of this research. The discussions relating to the different laws will not be intricately detailed, but

will focus on giving the reader an understanding of the legislative framework in which environmental decision-making is carried out.

### **3.1. National legislation**

National legislation is developed in conjunction with provincial and local government involvement. All legislation that is promulgated has to support the Constitution and has to be in line with the Bill of Rights.

#### **3.1.1 The Constitution:**

As indicated above, the constitution can be seen as the fundamental bottom line legislation which supports all other legislation. It should be the guiding principle for all the role players in environmental decision-making. Clause 24 of the Bill of Rights in the South African Constitution states that (South Africa: Constitution, 1996, p11)

*“ Everyone has the right -*

- 1. to an environment that is not harmful to their health or well-being; and*
- 2. to have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that -*
  - (i) prevent pollution and ecological degradation*
  - (ii) promote conservation and*
  - (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.”*

What makes this clause unique is that it protects the rights of future generations, in line with the promotion of sustainable development. However, it cannot be argued that this right supports deep ecological theory, because it is still anthropocentrically orientated by stating that justifiable economic and social development is promoted. This places no

real limit on the so called securing of ecologically sustainable development and use of natural resources.

### **3.1.2 Environmental Conservation Act 1989**

Most of this Act has been repealed by the National Environmental Management Act of 1998 except for sections 21, 22 and 26 which relate to the requirements for environmental impact assessments (EIA). This is a critical piece of legislation for this research as it requires the performance of an EIA process of which the scoping report forms part. It therefore the facilitative legislation for the tool that assists in the environmental decision-making process. The objectives of the relevant sections in the act can be summarised as follows (Department of Environmental Affairs and Tourism, 1998, p.9):

- *to ensure that environmental effects of activities are taken into consideration before decisions in this regard are taken*
- *to promote sustainable development, thereby achieving and maintaining an environment which is not harmful to people's health or well-being*
- *to ensure that identified activities which are undertaken do not have substantial detrimental effects on the environment; and*
- *to prohibit those activities that will;*
- *to ensure public involvement in the undertaking of identified activities; and*
- *to regulate the process and reports required to enable the Minister or his designated competent authority to make informed decisions on activities.*

This legislation is clearly in support of the concept of sustainable development but it is again anthropocentric in nature by focusing on people's well-being. It should however be remembered from the previous chapter that it was argued that the underlying and guiding principle of sustainable development should be ecological justice.

### **3.1.3 Guideline Document; Environmental Impact Assessment Regulations 1998**

These regulations have been formulated to comply with the requirements of the Environmental Conservation Act of 1989. All the listed activities that will require an EIA prior to approval are identified. It stipulates the process that has to be followed relating to the compilation of the EIA and provides regulatory and procedural guidelines. As mentioned previously, the scoping process forms part of the overall comprehensive EIA process.

The comprehensive EIA process is set out very clearly in a flow diagram (see Annexure A) where it is clear where the scoping process fits in. Given that all EIA approvals are subject to the scoping process and the majority of applications submitted require approval based on the information provided in the scoping process, it is seen that this process is the key tool for environmental decision-making.

### **3.1.4 National Environmental Management Act 1998**

The National Environmental Management (NEMA) Act is legislation that attempts to approach environmental management in a more integrated way. When the Act was published in 1998 it caused some confusion and is often described as unclear and even contradictory. NEMA attempts to address most aspects relating to the environment. The legislation is seen as enabling legislation and requires that regulations should be framed for various aspects relating to environmental management.

Very importantly, NEMA specifies environmental management principles. All developments and decision-making should take cognisance of these principles and should incorporate them (see Annexure A). NEMA also allows for EIA's, but this legislation is rarely to almost never used for the implementation and regulation of EIAs.

### **3.1.5 Less Formal Township Establishment Act No. 113 of 1991**

This act was promulgated to assist in the formalisation of informal township developments. It is also used in areas where the town-planning scheme does not make provision for certain kinds of development such as medium density low income housing. The Act allows the township to be developed without having to amend the town-planning scheme that is a long and cumbersome process. The Act allows for the suspension of all cumbersome legislation/regulations and bylaws that make it “difficult” to develop the land. These regulations include zoning regulations, building regulations and certain parts of the survey act.

It should be clarified that although the act is called the Less Formal Township Establishment Act (LEFTEA) it does not mean the township will be less formal after it has been established, it means that the process to develop and establish the township is less formal than what is usually required from normal town planning regulations. The LEFTEA Act should also fast track the development process, but in reality that does not always happen and it still takes a long time to develop townships using the legislation. It is legislation that is used only for the provision of housing.

### **3.1.6 Development Facilitation Act no, 67 of 1995**

The Development Facilitation Act came into effect in the late 1990's. After the 1994 elections, there was a need for the facilitation of development through a more efficient system than that which the previous planning legislation allowed for. The purpose of the Development Facilitation Act is as follows;

*“To introduce extraordinary measures to facilitate and speed up the implementation of reconstruction and development programmes and projects in relation to land; and in doing so to lay down general principles governing land development throughout the Republic; to provide for the establishment of a Development and Planning Commission for the purpose of advising the government on policy and laws concerning land development at national and provincial levels; to provide for the*

*establishment in the provinces of development tribunals which have the power to make decisions and resolve conflicts in respect of land development projects; to facilitate the formulation and implementation of land development objectives by reference to which the performance of local government bodies in achieving such objectives may be measured; to provide for nationally uniform procedures for the subdivision and development of land for residential, small scale farming or other needs and uses; to promote security of tenure while ensuring that end-user finance in the form of subsidies and loans become available as early as possible during the land development process; and to provide for matters connected therewith.” (South Africa: DFA: 1995, p. 2)*

This legislation is process-driven and there are very strict time-lines connected with the approval of applications. In theory an application should be approved within 80 days after being submitted and advertised.

The DFA also requires that an EIA has to be completed for each development, however the process is less strict than what is usually required from an EIA that is performed in terms Environmental Conservation Act of 1989.

### **3.2. Provincial legislation**

There is not a significant group of provincial legislation relating directly to the development process. However, it should be understood that the Provincial Authorities are often the arm of government implementing the national legislation. The most critical provincial legislation that affects the planning field is the Town Planning Ordinance.

#### **3.2.1 Town Planning Ordinance: Ordinance no. of 1947**

The Town Planning Ordinance is the legislation that facilitates the managing of land-uses and development applications in the traditional planning process. In terms of the Ordinance, development applications in terms of rezoning of land, subdivision of land

and land-use consent are allowed. This legislation is therefore only applicable to formalised town areas.

It should be noted that where there is no Planning Scheme in an area, the Town Planning Ordinance as well as other legislation is used to facilitate the development of the land. These processes are usually very long and cumbersome. Each City Area has Zoning Schemes that allow for various development rights on land. These rights have significant impacts on the environment. Often these schemes were not informed by environmental information. The plans are also often out of date and inappropriate.

For the purpose of this research, it should be mentioned that the Koelwaters case study would have been subject to this legislation, but due to the long approval process, the developer opted to use the Development Facilitation Act instead.

### **3.3 Local legislation**

At a local level Cities often has their own bylaws that deal directly with environmental health issues. These are however there for the protection of the health of the human residents of the city and not at all focused on the ecological environment. This does not mean that due to these bylaws by default some ecological aspects do get protected.

The importance of open spaces in cities is recognised when taking the rate of urbanisation into consideration. The current prediction is that the global urban population will double from 2.5 billion in 1995 to 5 billion in 2025 and that by the end of the 21<sup>st</sup> century more people will live in urban areas of the developing world than the number of people alive on the planet today (Roberts et al cited in Pierce et al et al, 2002). The protection of open space is therefore critical and it should be one of the core aspects of any city's development regulatory system. But very few cities have formal protection plans for their open spaces. However, the eThekweni Municipality has a very well developed open space system.

### **3.3.1 Durban Metropolitan Open Space System**

In 1970 the Natal branch of an NGO called Wildlife and Environment Society of South Africa (WESSA) raised concerns with regard to the loss of key natural areas due to ad hoc urban development. In 1979 the first metropolitan open space system (MOSS) plan was produced. Unfortunately this plan focused only on the preservation of rare and endangered species and not on the preservation of ecologically functional landscapes. (Roberts et al, cited in Pierce et al, 2002).

The same organisation approached the Natal Town and Regional Commission (NTRPC) and raised their concerns with regard to the loss of open space in the city. A partnership was established between the two parties and the result was that after a seminar in 1983 promoting the MOSS concept, a MOSS steering committee was established. (Roberts et al, cited in Pierce, 2002).

In 1985 a more detailed MOSS plan was produced and this time the plan introduced the concept of sufficiently large natural areas connected by river corridors. However, this plan still did not contain sufficient detail to assist in planning decision-making and the implementation of the MOSS. (Roberts et al, cited in Pierce et al, 2002).

At the same time that this was happening, the Central Durban Municipality (that forms part of the Metro) was reviewing their planning standard for the provision of open space. The standard at that stage was the allocation of 2 hectares per 1000 population. The review was initiated due to changes in the Town Planning Ordinance that required that Council had to acquire all the privately-owned land reserved for public open space. It was estimated that this would have cost the Durban Central Council R20 million. This change in legislation initiated an Open Space Inventory. This inventory lacked ecological information and only in 1989 after ecological research on the open spaces was completed was a comprehensive D'MOSS report produced. The report suggested the creation of an open space network for Durban to conserve critical viable areas to ensure the ecological functioning of the natural areas in the city (Roberts et al, cited in Pierce et al, 2002).

Then in the early 1990's with the change in political power, social issues and poverty alleviation became more important due to past injustices and inequalities. This led to a focus on the provision of houses and services to the mass of previously disadvantaged within the City boundaries. The Metro area was also significantly enlarged. As a result it became critical that the DMOSS system be reviewed and obtains political support to ensure its integrity. In 1998 this review was initiated by Durban's first Environmental Manager. (Roberts et al, cited in Pierce et al, 2002).

The fundamental difference between the new DMOSS system and the system developed in the 1980's is that the new system is based on socially, economically and environmentally sustainable open space instead of being conservation and ecologically focused. (Roberts et al, cited in Pierce et al, 2002)

There was also a fundamental shift in viewing open space from being as "the space left after planning" to an urban asset that adds value to the urban environment. The open space was identified, mapped on GIS and was presented for public comment. The total area of open space consisted of 33% of the land in the Metro area. Of this 33%, 48% was identified as potentially develop-able and will be under pressure to develop in the future. (Roberts et al, cited in Pierce et al, 2002).

The 33% of open space was secured by promoting the benefits that this space will offer to the City. These services include climate regulation, water regulation and supply, waste treatment, biological control, food production and cultural services. Open spaces were prioritised based on the services provided to the City. This approach attached a clear economic value to the open space system. The replacement value of the open space was conservatively determined as 2,24 billion in 1999. This value excluded the Durban tourism sector that is worth 3,5 billion per annum. This is significant if one considers that in 1999 the city spent 3,5 billion on general services, airports, electricity, markets and transport (Roberts et al, cited in Pierce et al, 2002)

Although this approach secured the adoption of the DMOSS system by council, the system is regularly viewed as an obstacle to development by sterilising developable land. This is unfortunately due to short sightedness by politicians who are more

interested in instant support than in the long-term sustainability and viability of the city and its citizens. However, in 2002 the system was again reviewed and only really critical open space was identified as being part of the DMOSS system. Of this new assessment only 15% is regarded as developable. This will contribute to more political support to the system (Roberts et al, cited in Pierce et al, 2002)

### **3.4 Conclusion**

From the discussions relating to the above-mentioned legislation it is clear that South Africa has some really good and supportive legislation for the management of developments and the environment. There are some gaps and discrepancies that make the implementation of certain legislation problematic, but those parts of legislation are currently being reviewed.

It should be highlighted that legislation is only as good as the people interpreting, administering, implementing and enforcing it. This makes the development process very colourful and not as simple as it might seem from legislation. This emphasises the importance that the institutional framework and capacity of a country plays in the facilitation of sustainable development.

After this brief of environmental legislation it is now critical to get a better understanding of the projects that were analysed for this research. The EIA's and how they addressed ecological justice formed the basis of the research.

## CHAPTER 4

### KOELWATERS AND SIPUMULELE: THE LOCAL CONTEXT

The two case studies are representative of two socio-economic opposites in housing developments. The one case study development is known as the Sipumulele low income housing development. The other case study is the Koelwater up-market holiday residential development. These two case studies were chosen because both were developed on sensitive land and both seem to have been developed at the cost of ecological justice.

In this chapter it will be explained where the developments are located, what the development proposals entailed and how the developments were approved.

#### **4.1 Koelwaters**

##### **4.1.1 Development Location:**

Koelwaters is a high income housing development situated in the South Coast of KwaZulu-Natal. The development is situated on the northern side of the town and the recreation beach of Port Edward. The town of Port Edward is part of the Hibiscus Municipality. The development forms part of the Estuary Hotel and is situated on the former caravan park site.

The property description is Erf 1094 of Port Edward. The Estuary hotel and caravan park had operated on that site for many years. The hotel and caravan park were situated around the estuary that leads out past the northern side of the Port Edward Beach.

The hotel is designed in a Cape Dutch style and the building was based on Herbert Baker's architectural style and design. The caravan park was well known as one of the best caravan parks along the South Coast and was very well used especially during peak seasons.



Plate 4.1 Aerial view of the Koelwaters development

#### 4.1.2. Site description

The main geographical features on the site are as follows;

- The only lagoon on the Port Edward beach.
- Tragedy Hill is a dune situated on the southern side of the site which has ecological and heritage value due to its size and natural vegetation and has cultural and history attributes
- The Inhlanhlinhlu River that is the main water source for the lagoon, feeds the lagoon from the West.
- A stream also feeding the lagoon on the western side of Tragedy Hill. (see site layout plan, Annexure B)

### 4.1.3 Development proposal

The original proposal was the erection of 150 holiday residential units on 17, 76 hectares of land. The units were arranged across the bulk of the site. No units were proposed on Tragedy Hill. The units did however extend around the corner of the hill and were very visible from the Port Edward beach (Plate 4.3).

The units were proposed as one to two stories in height. Originally the style of the buildings was to be those of log cabins. But the final development was completed in Cape Dutch style. This was then in a similar style to the existing hotel.



Plate 4.2. View of Development on the south side of the hotel



Plate 4.3. View of development from the Port Edward swimming beach



Plate 4.4. View of development from the lagoon mouth

#### **4.1.4 Environmental approval**

The area of development is environmentally sensitive because it falls within the coastal zone and is situated on both sides of an estuary. The Department of Environmental Affairs and Tourism required a scoping report because the land fell outside of the Town Planning Scheme and the development proposal was considered to be a land-use change from agricultural or undermired to holiday/housing.

The scoping report was done in terms of Regulation R1182 under Section 21 of the Environmental Conservation Act of 1989 (Act 73 of 1989). The approval was granted on 8 September 1999 with some special conditions, one of which was setback lines of 7 to 10 metres from the lagoon.

#### **4.1.5 Planning approval**

The development application was done in terms of the Development Facilitation Act (DFA). The tribunal hearing was held on 23 November 1999 and was subject to the following special conditions:

- The three units closest to the beach were not allowed.
- Only 110 units were given approval.
- On the south side of the estuary between the causeway and the beach, a 15 m setback from the high water mark was to be observed.
- The applicant had to connect his sewage into the Port Edward sewage system.
- The applicant had to prepare an environmental management plan to be approved

by the Department of Agriculture and Environmental Affairs.

- A service agreement had to be prepared between the applicant and the local authority.
- Road R61 had to be upgraded to a type B2 road intersection.

Below, the approval process shown diagrammatical.

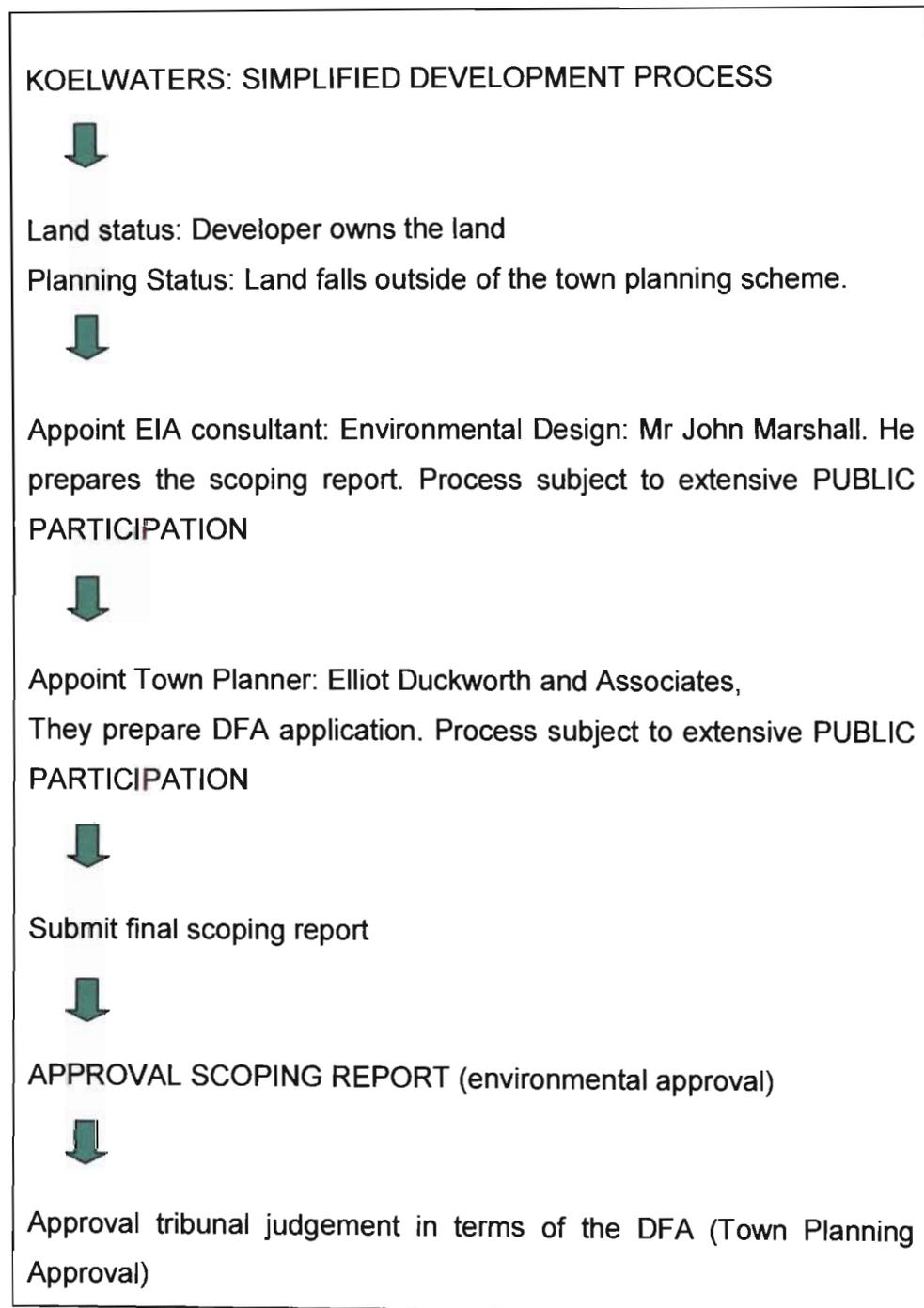


Figure 4.1 Approval Process for the Koelwaters development

## **4.2 Sipumulele**

### **4.2.1 Development location**

Sipumulele is a low Income housing development situated in the Inner West Operational Entity that is part of the eThekweni Municipality. It is situated on the southern bank of the Umgeni River and is next to areas known as Claremont and Kwadabeka. (Annexure B)

The Sipumulele development is situated on the Remainder of Portion 16 of Kranskloof 867. The land was previously cultivated by mango farmers but has been unused for a number of years. The EThekweni Housing Department mistakenly thought in 2000 that there was an area not indicated as part of the DMOSS system and the land is available for development. Accordingly, they advised their Real Estate Department to purchase the land for low income housing purposes

### **4.2.2 Site description**

The site is 86 hectares in extent, of which approximately 80% is steeper than 1:3 and therefore undevelopable. Sections of the site next to the Umgeni River are subject to flooding. In addition there are a number of drainage lines that run through the site, further limiting development and making access to the entire site more difficult. Only a small part of the land remained free for development.

Access to the site is limited by entering through Kwadabeka Unit F to the east of the development. However, the construction of a bus route across the escarpment into the proposed Sipumulele development is underway, and will improve access to the development significantly.

### **4.2.3 Development proposal**

The proposal was for the erection of 1004 units on various sections of the land. However during the scoping process it was determined that development on the most western slopes would not be allowed due to poor access and further damage to the extensive natural vegetation on these slopes. The upper parts of the site furthest away

from the river were already subject to informal invasion and the rest of the site was under threat of such invasion.

The proposal allowed for the full servicing of this development including waterborne sewage, tarmac roads and refuse removal. No uses other than residential were proposed.

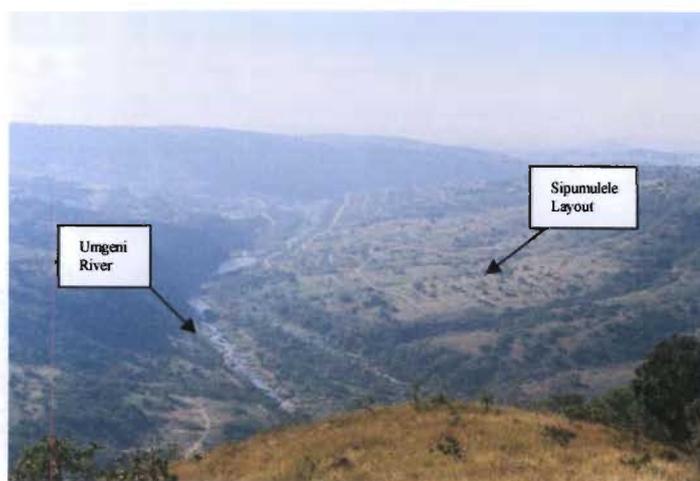


Plate 4.5 View of the Sipumulele development with the Umgeni River to the North of the development



Plate 4.6 Land under pressure; illegal invasion of the Sipumulele Land

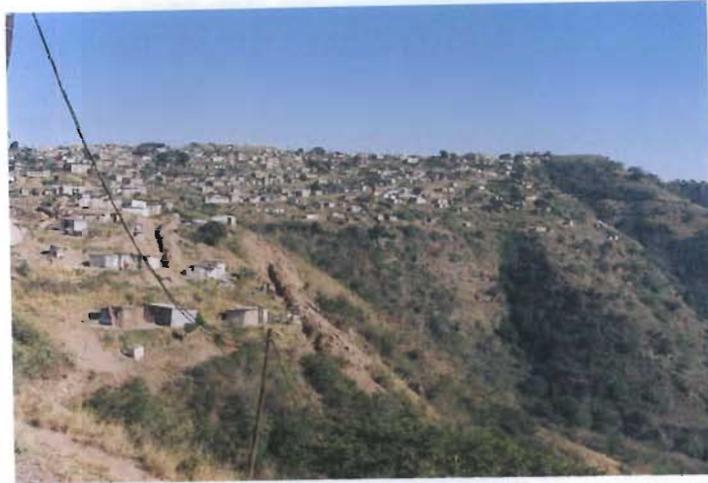


Plate 4.7 Informal Invasion of the Sipumulele land on the border of Kwadabeka

#### **4.2.4 Environmental Approval:**

The development was environmentally sensitive because a substantial portion of the land falls within the Durban Metro Open Space System. This was however only discovered after the city had purchased the land. There was an error in the GIS stipulating the DMOSS areas and that the Sipumulele site should have been included in this system.

The Department of Environmental Affairs and Tourism required a scoping report because the land fell outside of the Town Planning Scheme and the development proposal was considered to be a land-use change from agricultural or undetermined to low cost housing

The scoping report was done in terms of Regulation R1182 under Section 21 of the Environmental Conservation Act of 1989 ( Act 73 of 1989). The eThekweni environmental branch had severe reservations about the development as it formed part of their DMOSS system, but felt a need to compromise due to the mistake in the GIS system. After only a desktop study, they provided some development guidelines and approved the development. However after some site visits they became uneasy with their decision and withdrew their support and requested that some detailed vegetation studies should be done. This was ignored by the Provincial Environmental Authorities and the scoping report was approved on 21 August 2000.

#### 4.2.5 Planning approval

The development application was done in terms of the Less Formal Township Establishment Act (LEFTEA) and was approved by the Provincial Authorities in 2001. Due to the fact that the LEFTEA legislation was used for the township approval there was very little public participation. Due to the location of the site and the fact that it was not in close proximity of any middle income residential areas there was an absence of an active participating community.

Below, the approval process shown diagrammatical.

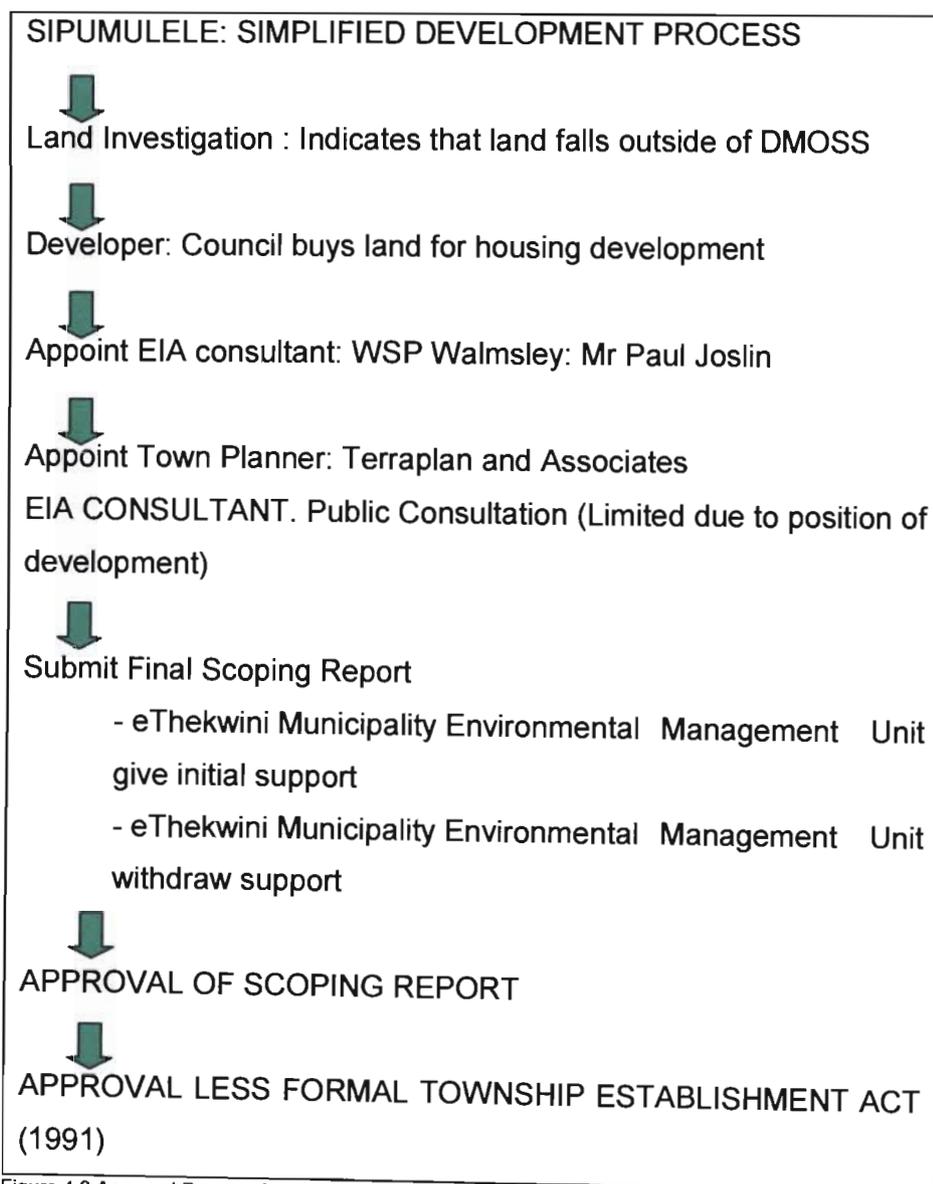


Figure 4.2 Approval Process for the Sipumulele development

### **4.3 Conclusion**

The two case studies represent forms of housing developments at the two extremes of the economic scale, and they were developed with different planning legislation. In both cases there were clear questions as to whether they should have been allowed on environmental grounds. The investigation as to how their ecological sensitivity was investigated and interpreted by the decision-making authorities will be discussed under the analysis. The next chapter discuss the Methodology that was followed with regard to the research.

## CHAPTER 5 METHODOLOGY

This chapter it will explain the methodology that was followed to gather the appropriate data, and the processing of this data to complete the research. To get a clear understanding of what data were required to compile this research work, the aim of the research is repeated.

**To explain whether ecological justice concerns are being integrated into environmental decision-making.**

The objectives of the research are:

- Review and interpret the concept of ecological justice.
- To determine the extent to which ecological justice principles were integrated into environmental decision-making in two housing projects.
- To explain whether low income and high income housing projects are assessed differently in relation to ecological justice principles.
- To assess how successful the scoping process is in addressing principles of ecological justice.

Broadly the research will also test that without the due consideration of ecological justice in the environmental decision-making process it is not possible to achieve sustainable developments.

### **5.1 How was the research done?**

To test the argument made in chapter two, that **sustainable development is not achieved if ecological justice is not taken into consideration** two case studies were measured against the ecological principles.

Chapter four gives the background of the two case studies and explain why they were chosen. As mentioned the main reason they were chosen was because they both are

located on ecologically sensitive land. To investigate the environmental decision-making process it was required to get information from the various role players in the decision-making process. This led to the decision to have interviews with all the role-players in this process.

### 5.1.2 Sampling and interviews

The research required the targeting of very specific individuals that played key roles in the decision-making process. Interviews were on two levels. The first level was a broad interview relating to general ideas and understanding of ecological justice, sustainability and the scoping process. The second level was case study specific. The interviews were conducted with the following people:

No.	Name	Position and company	Type of interview	Date
1	Dr. Debra Roberts	Deputy Head: Environmental Management Unit, eThekweni Municipality	- General Interview - Sipumulele Interview	10 June '03 24 June '03
2	Pierre De la Porte	Environmental Officer: Hibiscus Municipality	- General Interview - Koelwaters Interview	27 June '03 27 June 2003
3	Paul Joslin	Environmental Consultant: Wamsley (when he was interviewed he had already resigned from Wamsley and was working in the Biology Department of the University of Kwa Zulu Natal	- General Interview - Sipumulele Interview	02 July '03 02 July '03
4	Sarah Allen	Manager: Environmental Impact Management, Department of Agriculture and Environmental Affairs	- General Interview - Koelwaters Interview - Sipumulele Interview	4 June '03 4 June '03 2 July '03
5	Irene Hutton	Conservation Planner: KZN Wildlife	- General Interview - Koelwaters Interview	15 July '03 15 July '03
6	Vicky King	Director: Environment, Wamsley Consulting	- General Interview	4 June '03

7	Cathy Kay	Wildlife and Environmental Society of South Africa (WESSA), During the Koelwaters Development she was part of KZN Wildlife	- General Interview - Koelwaters Interview	27 June '03 27 June '03
8	John Marshall	Director: Environmental Design	- General Interview - Koelwaters Interview	12 June '03 26 June '03
9	Geoff Redden	Developer: Koelwaters	- Koelwaters Interview	21 August '03
10	Richard Boon	Environmental Officer: eThekweni Municipality. During the Koelwater development he was the representative from WESSA and during the Sipumulele development he was working for the Municipality.	- General Interview - Koelwaters Interview - Sipumulele Interview	13 August '03 13 August '03 13 August '03
11	Hennie Naude	Project Officer: eThekweni Housing (Developer)	- Sipumulele Interview	10 July '03
12	Rod Montgomery	Town Planner: BSC Consulting	- Koelwaters Interview	15 July '03
13	Warrick Pearce	Director: Environment and Planning, SIVEST	- General Interview	12 June '03
		<b>Total Number of Interviews</b>	<b>23</b>	

Table 5.1 List of Interviews

Altogether 23 interviews were conducted with 13 people that were influential in the process relating to environmental decision-making. All interviewees were very agreeable regarding participating in the interviews. Interviews were conducted at times and in places that the interviewees found the most convenient. Accordingly, the venues varied between coffee shops and offices. The interviews were taped.

### 5.1.2 Data collection

The data were collected firstly by the evaluation of all the written documentation relating to the scoping and town planning processes of the two projects. Secondly data were collected through the interview process via questionnaires. The questionnaires were qualitative in nature. The questionnaires were semi-structured in nature with guiding

questions. The interviewees were probed for more detailed answers where necessary. There were three different questionnaires namely a general questionnaire focused on determining the general understanding of decision-makers, a questionnaire relating specifically to the Koelwaters development and one relating to the Sipumulele development (copy of questionnaires Annexure D). It should be noted that the questionnaires did not address the concept of ecological justice directly. This was intentional as the term Ecological Justice is often misunderstood and interviewees, would not necessarily go into enough depth to explain the principles of ecological justice. Therefore by asking other questions that related to the principles of ecological justice it allowed for more in-depth answers on the topic.

Interviews were recorded by Dictaphone, allowing the interviewer to focus on the interview and engage in proper conversation during the process. Recording interviews also allowed to get a more comprehensive and accurate record of data (Flowerdew et al, 1997). Recording interviews also gave the researcher more freedom with regard to probing the interviewees to explain their statements and elaborate on ideas.

### **5.1.3 Processing of data and analysis**

Some of the interviews were transcribed by the researcher, but the majority were done by an appointed person. Due to technical problems with dictaphones and unforeseen unavailability of the transcriber, three interviews were not completely transcribed. The researcher listened to these interviews and selectively transcribed the appropriate sections.

Responses to the questionnaires were divided into four main categories, as follows;

- Broad sustainability views
- Ecological justice
- Trade-Offs between social, economic and ecological
- The Scoping process

Categorisation took place by colour coding each category and then by reading through

the interviews and marking the answers correlating with a particular category. When all the answers were broadly categorised further processing took place by placing into sub categories that linked back to the theory chapter and in particular the ecological principles.

The aim was to determine whether the decision-makers did consider all the ecological principles during the approval of the two case studies. Based on this, it was argued whether it was possible for sustainable development to take place.

The research further analysed to what degree the ecological principles were compromised or traded off against achieving economic and or social development. The scoping processes were also analysed too investigate the appropriateness and success of the tool to address ecological justice.

## **5.2 Why this research**

At the time of the research the researcher was working in the Development and Planning Department of the eThekweni Municipality, thus an insider to the problem. The area of housing was chosen because the researcher has background in Urban Planning and has an in-depth understanding of the challenges in housing in South Africa.

The South African housing market has been exploding over the last six years and there has been significant pressure on the market to develop housing. On the non market side the South African government has a focussed political agenda to provide housing to for social upliftment. Accordingly, the use of housing projects as case studies is ideal and is a real reflection of the pressure of development in South Africa.

It may also be asked, but why just the scoping process, why not also Strategic Environmental Assessments (SEA). The primary reason for this is that although the SEA a very useful tool is, it is not really used and was not required in terms of legislation as a prerequisite for development. Accordingly, the implementation of SEA's are at the moment too limited to have an impact on Environmental Decision making.

### **5.3 Research techniques**

This research was investigative in nature and in a qualitative manner it explored how ecological justice was taken into consideration during the development process with a focus on the environmental decision-making stage. It is qualitative because it was interactive field research. (Leedy, 1997)

The research can be described as a case study design. In this design the researcher studied two cases. Information on the two cases was gathered by conducting interviews and by studying written documentation on both the cases. The case studies shed light on the process of environmental decision-making and allowed the researcher to evaluate this process in relation to ecological justice principles. The analysis is a rich descriptive narrative that will attempt to reconstruct the participants understanding of the environmental decision-making process in relation to ecological justice (Leedy, 1997).

## CHAPTER 6

### ANALYSIS

#### 6.1. Broad Sustainability

To understand how strongly the concept of ecological justice is linked with sustainable development, it is necessary to consider how environmental decision-makers interpret the concept of sustainability. This will also give some clarity as to how strongly the concept of sustainable development will be upheld in new developments. The data collected from the interviews is arranged in relation to broad understandings of sustainability.

##### 6.1.1 General Understanding of sustainability

Development is a necessary component of the transformation in South Africa. All of the stakeholders interviewed stated that they were in favour of development as long as it was done in line with the principles and goals of sustainable development. The big challenge that lies ahead is the facilitation of truly sustainable developments.

It was evident throughout the research that the realisation of sustainable development and implementation of the principles is only as good as the people that implement it and their understanding thereof. This is not just applicable to issues relating to broad sustainability but also the direct implementation of planning and environmental requirements. This was also highlighted in the interview with the Deputy Head: Environmental Management of the eThekweni Municipality in the statements:

*“The scoping process is only as good as the regulatory authorities; as good as the consultants doing the scoping, as good as the stakeholders are informed”.*

*“...again it comes back to that kind of fourth leg of sustainable development that kind of institutional human element. It depends on the people; you know that’s the thing”. (Respondent 1, 2003)*

By placing such a strong emphasis on the institution it is clear that this person places a strong value on the definition of sustainability of finding the balance between the ecological, economic, social and institutional environments. This is also clear from her following statement:

*“Sustainable development is not a just a three-legged pot but has four legs, social, economic, ecological and institutional strength. The reason why developers still think that way is because institutions do not have the guts to actually champion the existing rules so the developers are allowed to come in, when there is a tentative attempt to ensure that development is sustainable, and should there vaguely be any controversy about particularly ecological issues, then the institution tends to back off. The developer gets the sense that the law is not real, and that is a problem it generates a whole myth about what is possible, so the concept of protecting the public good gets blown out of the water because the custodians of the public good, the institutions tend to be weak”.*  
(Respondent 1, 2003)

This is a very important statement because if the environmental decision-makers are weak it will be very difficult for the principles of ecological justice to be upheld in any form of decision-making.

Three of the interviewees stated that it is not clear to them what sustainability means. There might be a theoretical understanding but what is it really in practice? The Hibiscus Municipality official stated;

*“...okay, what is sustainable? That’s open to all kinds of interpretation and if it’s left to the politicians to interpret, sustainable, you’re going to get a vastly different idea to what the greenies are going to come up with”.*  
(Respondent 2, 2003)

Another consultant stated that he does not believe that you get sustainability because:

*“ nothing's sustainable, everything changes you know through time and even natural systems change don't they? You know without human interference”. (Respondent 3, 2003)*

It is clear from his statement that there is some confusion relating to what sustainable development is. It could be argued that the fact that nature can adapt and be robust as part of its inherent nature makes it sustainable. To say something is sustainable does not imply that it does not change, but that it is robust enough to manage change.

One consultant is of the opinion that we are not really addressing sustainability but that we are only in reality trying to minimise impacts.

*“...sustainability, whatever that Holy Grail is. I don't know? In my view we don't deal with sustainability. What we deal with in the environmental process is, is really the minimisation of impacts and it's a pragmatic approach rather than a great scientific approach which I think is almost impossible to get to the bottom of, so it's probably the only way that you can look at it. I think yeah, really the way we approach it is minimisation of impacts rather than sustainability, broader sustainability issues which, I haven't been able to answer ever, I don't know if anyone else has”.  
(Respondent 8, 2003)*

This is challenging the entire concept of sustainability and challenges the extent to which it is implemented in environmental decision-making. This will be further investigated when the two housing developments will be measured against the ecological principles. An official from the Department of Environmental Affairs took the concept of intersecting circles one step further:

*“...you know everybody looks at it traditionally as three intersecting circles between ecological processes, social and economic aspects and look at*

*the middle point as the point of sustainability, but Trisha Greyling said one should rather look at it as a triangle. Each corner of the triangle represents either the social, economic and ecological aspects of development. One should then rather look at the triangle and depending on where the development is and what issues are the most critical in the area will determine where your centre for sustainability sits. For instance should the development falls within the Kruger National Park, your centre for sustainability will fall closer to the ecological corner". (Respondent 4, 2003)*

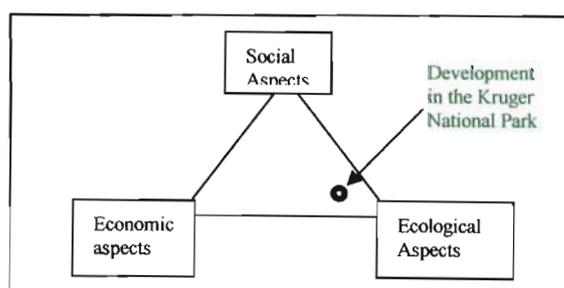


Fig.6.1 Department of Environmental Affairs' interpretation of Sustainable Development

This is a valuable interpretation of sustainable development. It is rational to not just use a generic concept where all aspects of sustainable development are carrying the same weight. The same weight cannot be placed on the social aspects of a development in an area that has a low population such as the Kruger National Park in comparison with an area such as the Durban South Basin that has a comparatively high residential population. However, this does not mean that the ecological environment should not still be the strongest underlying principle that is upheld to ensure that sustainable development is achieved.

The Department of Environmental Affairs see it as their main role to implement sustainable development and they assess all environmental applications in terms of the NEMA principles. It was felt that this focus is misplaced and that their focus should be more on the sustaining of the natural environment as the KZN Wildlife department stated:

*“...in the principles of NEMA it is stated that they’ve got to place the people first and then they’ve got to weigh up economic, people and the natural environment. So they have to take all three and make a balanced decision. But at the same time, there’s a million people and departments running around out there looking after people’s interests, looking after economic interests, looking after all of those and if these guys are putting the natural environment secondary” (Respondent 5, 2003)*

It was also felt that the Department of Environmental Affairs place too strong an emphasis on the NEMA principles, and that they did not necessarily have the right people employed to make a truly sustainable assessment of an EIA report.

*“The people that are employed at the Department of Environmental Affairs come from more a social background and that it will require a paradigm shift for them to really take the natural environment into consideration”. (Respondent 5, 2003)*

This raises the question as to whom is responsible for the implementation of sustainability. It is something that should be done, and kept in mind by, everyone, but each department or consultant or developer will still have their core function. The Wildlife and Environmental Society of South Africa (WESSA) feels strongly that it is the Municipalities’ responsibility to make sure that development is managed and implemented in a sustainable manner.

*“The municipality has the responsibility to carry out sustainability, they should have that ethic. Developers have the responsibility to abide by the law and develop in the most eco -sensitive manner that they can”. (Respondent 7, 2003)*

One of the consultants thought that the scoping process should promote sustainability in general and should look more deeply into issues such as economic and social sustainability. She explained as follows:

*"I think the scoping process should promote sustainability in general. I think one of the areas where it doesn't focus that it could possibly focus more on is the financial sustainability. If somebody goes and, they have a great plan, you know to build a game lodge for instance, so they go and they prepare an area and they build it and then they find that there's no market, then you end up having, destroyed the environment for no particular reason because you're left with a, derelict building or something which is not going to be used in the long term. So I don't think it is Environment Affairs' job to have a look at financial sustainability but I think it's a bit of a, glitch in the process and that nobody currently actually looks at the true sustainability. I think the whole scoping process should ensure the sustainability of ecological process. It should ensure the sustainability of socio-economics of the actual financial situation of the project". (Respondent 6, 2003)*

On the one hand it is suggested that the scoping process should address sustainability as a whole, but it is recognised that the Department of Environmental Affairs does not have the capacity or mandate to look at social or economic issues. But they are the custodians of the scoping process. This leaves a gap in the institutional umbrella in ensuring that sustainability is achieved.

It is very clear that the most challenging aspect about finding the optimal sustainable solution is the balancing of the social, economic, or ecological environment. The consultant from Walmsley explained;

*"The whole sustainability issue comes down to, are you just looking at ecological sustainability and how do you fit socio-economic sustainability in with that. An example of that is the installation of a water supply pipeline to around a hundred thousand people, the existing line is corroded and if it breaks then those people are not going to have water. The proposed new pipeline can't follow the old pipeline's route because*

*there are too many services in the, the road reserve and there are too many people living in the road reserve so they've chosen a new route, that route actually goes through about twenty metres of swamp forest. KZN Wildlife are saying on absolutely no account can that project go ahead. They've actually now appealed against the project because of the twenty metres of swamp forest" (Respondent 6, 2003)*

This links with the ideas of Campbell's interpretation (see Chapter 2) that sustainability's aspects are conflicting and finding the balance between the aspects are the biggest challenge that is faced by environmental decision makers. It is a reality that trade-offs will have to be made to find this balance.

## **6.2 Addressing Sustainability:**

In this section the two predominant interpretations of sustainable development namely the concept of intersecting circles and the idea of weighting conflicting interests, will be investigated further by looking at how each aspect is viewed and interpreted.

### **6.2.1 Social Sustainability**

Social sustainability was predominantly mentioned in terms of the provision of low cost housing. However, this is dependent on where the housing is provided, and what form of housing is provided. It is also believed that ecological issues will only be addressed when social issues are addressed. The eThekweni Municipality official (Respondent 1, 2003) commented that for ecological issues to be addressed, there will have to be a massive change in social awareness, and poverty will have to be alleviated. But part of sustainable development is poverty reduction on the one hand, and the maintenance of the ecological environment on the other hand. Accordingly, to argue that ecological principles will only be addressed when poverty is eliminated goes against the entire concept of sustainable development that strives to reduce poverty while maintaining the ecological environment.

### **6.2.2 Economic sustainability**

Whenever the question was asked about whether the developments were sustainable, it is as if economic sustainability is the dominant dimension because the developer can develop what he wants. This is because there is an immediate capital gain. That is a misunderstanding of what economic sustainability is. Economic sustainability implies that in the long run the development will be financially viable. Economic sustainability also means that the development is robust enough to change and adapt without further large capital input to new technology and trends.

### **6.2.3 Ecological sustainability**

Ecological sustainability is seen as follows:

*“I think that you can't just look at preservation. Sometimes preservation is appropriate but most of the time it's not. I think it's got to be that you can either manage within the ecological constraints or you can replace that particular ecological habitat with another or with something comparable or you can go and upgrade another area too, as a trade-off but I think the importance is that, that what you're doing doesn't affect the sustainability of, of the ecological community or habitat in that area”. (Respondent 6, 2003)*

Ecological sustainability has to ensure that a habitat balance is maintained. This means that wherever there is impact in the one area it will be balanced out by improving another part of the habitat. It should mean that the principles of ecological justice are followed.

### **6.2.4 Institutional impacts**

The respondents felt strongly about the impact that institutional matters have on the realisation of sustainable development. It has been highlighted by all interviewees that

throughout the development process things fall through the gaps and particularly gaps that exist due to institutional short-comings. These short-comings can be categorised as departments not talking to each other, capacity problems, gaps in institutional structures and the taking-up of responsibility.

### Communication and co-operation

KZN Wildlife gave as an example the case of the Koelwaters development. There were meetings with either the consultant or the DAEA where they would make suggestions as to the design and layout of the development, but these were never adhered to, or made part of, the Record of Decision. As they state:

*“there was a whole stack of stuff about the type of fencing that was going to surround the whole development to allow small animals at least to move, and birds and things to move through it and palisade fencing was discussed at the last set of discussions that was held. I thought that was pretty much agreed upon but it appears that if it isn't in writing and signed with a specific date on it and it doesn't hold” (Respondent 5, 2003)*

This highlights the fact that for an institution to implement new requirements these have to be very specific. Minutes should be taken at meetings, and agreement to suggestions should be sent to the applicant or consultant to confirm those issues. Otherwise it is simply a gentleman's agreement that will not be enforced.

DAEA advised that they respect other departments' comments and input but that in certain situations where they do not agree, they would have to go against what those departments advised.

*“We have, we actually base quite a lot of wager on, on what Debra's (crowd) have to say with, with any of, of these applications in the Durban Metro because we respect their, their views and, and their abilities. I think this is one of the, one of the rare instances where, where we've disagreed and where we've, we've overruled them. So, so we, we try to take their*

*views into account and, and see to what extent they can be (accommodated or not) and say generally we'd, we'd rather have that developer and, and Debra have, have fought the battles out and we get the end product". (Respondent 4, 2003)*

This statement reflects the need for officials from different departments to communicate and negotiate outcomes that reflect the principles of sustainable development.

### *Institutional capacity*

Institutional capacity has been highlighted by almost every interviewee. Even those departments that were seen by other departments to have greater capacity compared to them, still highlighted that they have capacity problems. The eThekweni Municipality advised

*"Lack of capacity, lack of understanding, lack of resources to process the applications when we do get it. We have an understanding with Province that all the reports that come through Durban will be reviewed by us. And you know how badly we are staffed and often we are a hold up, and it takes weeks to get out."(Respondent 1, 2003)*

The Hibiscus Municipality official highlighted that they have only one environmental officer for a coastline of approximately 100km. They also felt that due to their capacity problems that they would like to see that the Provincial Authority should provide more support. The Hibiscus Municipality also mentioned that it is not just an issue of numbers but also of competency. They themselves felt that they do not have sufficient training to provide meaningful input at all times and that they feel out of depth:

*"I still you know it floors me when I get a thick document like this and you get about five or six specialist reports in there, you know and you think to yourself, ja great, what is my input? Yeah look I'm not saying it's, it's a bad thing, I'm just questioning, the issue, do they really think that we can*

*add value to it? I don't know? In my case look, Durban Metro, they've got people qualified to do it." (Respondent 2, 2003)*

### Taking responsibility

As stated earlier it is unclear as to who exactly holds the specific legislative mandate to ensure that sustainability is implemented. Over and above this, there is a feeling that the departments, the developers and the consultants are reluctant in taking up responsibility for ensuring that environmental plans are implemented and design proposals are followed through. It is also not just a matter of taking up of responsibility, but also being accountable for what has been allowed. This was commented upon with regard to the Hibiscus Municipality:

*"I find we have excellent environmental legislation but very little political will. Municipalities have an obligation to implement national environmental legislation. But this Municipality has paid hundreds of thousands of rands in compiling environmental plans and nobody reads these plans and implements them. They spent R250 000 on a management plan for estuaries and council did not even know that it has been done. And now they are spending money investigating why this municipality is causing so much damage to the environment. They do not have the capacity they are not willing to hire full time environmental officers in the municipality. Previous Municipal Manager said we are here to extend our rates base even if this means that we damage the environment." (Respondent 7, 2003)*

It is felt that developers have the responsibility to abide by the law and develop in the most eco-sensitive manner. Developers are also accused of not developing sensitively. In certain circumstances development is done in such an unsustainable way that the developments are affected by flooding and other environmental issues. Unfortunately, as soon as the development is sold, the developer walks away and will never be held accountable for any damages.

The problem with not taking responsibility for sustainable development is that there is a build up of frustration in the eyes of the general public and departments that would like to see more ecologically friendly developments. It also creates an atmosphere where defiant developers feel comfortable with the fact that they will be able to get away with not complying with legislation. As the developer said:

*“The municipalities don’t enforce as they should, other developers pollute the stormwater systems by pumping in their raw sewage. In the last 10 year we also had time when the pumps at the sewage works broke and then all sewage from the whole of Port Edward flowed into the estuary. They do not have any standby generators. There are also no standby pumps. They should then be able to contain the sewage for some time, but within an hour there is raw sewage in the estuary. Unless we have the local authority totally committed to environmental protection we will not achieve it, because when they are in the wrong you can not easily sue them. We need an ombudsman.” (Respondent 9, 2003)*

This also links with the first statement of inadequate communication that was earlier made under this section and that the achievement of sustainable development will only be as good as the people that implement and lobby for it.

It is clear that the institutional impact plays a significant role in the facilitation of sustainable development. It should be emphasised that without departmental co-ordination, the building of capacity and the taking up of responsibility by all decision-makers, there is an unbridgeable gap between conventional development and sustainable development. This issue is exacerbated by the fact that departments are simply unsure of how far their role stretches. This is clear from the statement of a DAEA official:

*“You know, you keep on coming into this question of to what extent do we get involved in those issues and to what extent do we then simply evaluate what is given to us. There are lots of arguments which would*

*range backwards and forwards. Some would definitely hold that we become too involved in the actual nuts and bolts of the application rather than adjudicating on the finished product. Um, but we're aware of things like that then obviously we try through conditions and so on, impose reasonable restrictions" (Respondent 4, 2003)*

This raises the point of finding a balance in decision-making. In the case of DAEA they are unsure of the level at which they should get involved in assessments of environmental reports. Seeing that the approval of environmental impact assessments is their core function, it would be expected that aspects such as quality control relating to the content and detail of EIA's should be part of their duties.

This goes back to the theory relating to establishing the balance between the ecological, social and economic environments. In practice this balance is very difficult to achieve, and it is dependent on the weighting the practitioners place on each environment. This research relates to understanding what value the practitioners place on the ecological environment and if the ecological principles are maintained throughout the decision-making process. The next logical step is to analyze the decision makers understanding of ecological justice.

### **6.3 Ecological justice**

The success of sustainable development rests on having the ecological environment as the foundation and starting point for considering and managing any development. The maintenance of the ecological principles throughout the decision-making process plays an integral part in achieving sustainability. It is therefore important to see how well-developed the concept of ecological justice is, and how well it is incorporated in environmental decision-making.

### 6.3.1 General understanding of ecological justice

It is challenging to implement the concept of ecological justice into environmental decision making because it is not the most popular political view point and the concept is fairly new in comparison with aspects such as social justice. This is also clear from the interviews, because most respondents did not know what was meant by “ecological justice” and wanted clarification with regard to the question. It should be noted that the questionnaire focused more on determining what respondents understood with regard to ecological justice than that what their thoughts were on social justice.

The best responses with regard to ecological justice came from the eThekweni Environmental Unit and The Wildlife and Environmental Society of South Africa (WESSA). It is also important to highlight that some of the responses were orientated to deep ecology and others were more from a more shallow ecological perspective.

Two of the respondents said that they thought that ecological justice and sustainability were one in the same. On the one hand this a slightly misguided interpretation, especially as sustainability is defined today as a balance between social, economic and ecological aspects. The original thoughts of sustainability link strongly with ecological preservation, but the consultants did not refer to that; they referred to the current day interpretation of sustainability that does not strongly prescribe to ecological preservation;

*“It’s a balance between (obviously) the social issues um the economic issues and the green issues are, again it’s an impossible equation as far as I’m concerned um and at, at the end of the day the people who adjudicate these reports basically have to make that decision um it’s not from the likes of me, all we do is really point out the, the issues, so many jobs, so much income um and destruction of so many trees, possibly”.*  
(Respondent 8, 2003)

WESSA's response was predominantly based on the fact that nature will be treated with justice if humans abide by nature. Their argument was based on the opinion that the laws of nature exist and it is in humanity's best interest to listen to these laws. This is an argument that links mainly with shallow ecological principles and highlights what is in human best interests, rather than that of nature. It can be argued that the comment also supports deep ecological theory as it makes clear that nature was there before humans- but it was mainly focussed on what is in the best interest for man;

*"If it is not ecologically sustainable it is not economically sustainable. There are no rewards or punishments with nature there are just consequences. From an ecological justice perspective, you put the development in the middle of a flood plain, along comes a flood and wipe you out. Well that is maybe a form of ecological justice, because you were not supposed to be there in the first place, so nature will always get her way". (Respondent 7, 2003)*

It is understandable that NGO's lobbying for ecological matters do sometimes use shallow ecological arguments to elicit support from the general public. However, one would hope that their arguments do have more deep ecological influences to assist in the change of public opinion, rather than just gathering public support for their organisations.

The eThekweni Environmental Management Unit had predominantly deep ecological views on the meaning of ecological justice and these will be discussed later. However, they also had some very interesting view points on technology and technological solutions for environmental problems:

*"Technology as a solution for an environmental problem depends on the scenario. If you look at water recycling, at the southern base water sewage treatments, that is fabulous because it is a technological solution to a water problem and it has been very effective and has created a whole new market for recycle material. So technology if used*

*wisely can be great but it is expensive. And that is the problem in the developing countries you tend to go for you lowest common denominator. And your lowest common denominator is cost, it is always the functioning environment. So viability is more important to us, technology used unwisely can be equally as bad. The distinction between the two is that technology costs and a more natural approach to planning does not and in some cases like the southern works there is very little you can do because the catchments is stressed, unless you are prepared to rip up development. And I do not think that, that level of maturity is there, in the Sates they are actually doing that and they are taking away development next to rivers as a solution. But we are a long way away from that so we have to protect it". (Respondent 1, 2003)*

Technological solutions sound good, but there are some implications relating to them, especially for developing countries.

*"It is impressive with what you can do with technology. But there are two questions, cost and sustainability. It usually costs a lot and is these technological solutions actually sustainable are they going to solve the problem and can you afford to sustain that form of intervention. When they built the Umlaaz canal it was for 1:50 and now the catchments is so full they have to build for 1:100, and the costs are so huge. So it was a great solution at its time but it was not sustainable. But it would have taken a very big person to say that we are going to protect this river and there will be no housing". (Respondent 1, 2003)*

It should be reminded that deep ecological philosophy does not disregard technological solutions, but supports appropriate small-scale technological solutions. As was stated in the Literature chapter (p. 24); Technology should enhance protection and should not be used in place of social change. Technology is only a tool and not a means to ecological rehabilitation of the earth. It is therefore seen that appropriate technology is accepted (Pepper, 1996).

From the above comment on technology it can be concluded that appropriately-scaled sustainable technologies will be very relevant to developing countries, and could be easily aligned with deep ecological philosophy.

DAEA had a strong shallow ecological viewpoint. They justify their argument again on the principles of NEMA and re-iterated the principle that people should be placed on the forefront. They further explained that:

*“Look obviously the natural environment is the platform upon which we all live and work and play. So we need to maintain the integrity of the natural resources as much as possible. But equally being mindful that there are areas which basically have been severely impacted and one’s then got to, be able to make a judgment call whether that becomes a sacrificial area or whether it’s an area that you try and restore”. (Respondent 4, 2003)*

They also said in terms of the Sipumulele development:

*“Look the only ecological rights really are that the systems shouldn’t be degraded and so on as in section twenty four and, but at the same time we need to be promoting justifiable socio-economic development and from my perspective what was on the table was justifiable. Um and it was certainly in line with government policies around reconstruction development, round improving peoples living conditions. That was a decisive move”. (Respondent 4, 2003)*

It is clear that in their assessments, the impact on humans is far more important. The consultant from Walmsley said that, in her opinion ecological justice is only achieved when a new development does not impact on the ecological sustainability of the area. She also specified that it depends on the current integrity of the ecological environment.

*“I think that you can’t just look at preservation. Sometimes preservation is appropriate but most of the time it’s not. I think it’s got to be that you can*

*either manage within the ecological constraints or you can replace that particular ecological habitat with another or with something comparable or you can go an upgrade another area too, as a trade-off but I think the importance is that what you're doing doesn't effect the sustainability of the ecological community or habitat in that area." (Respondent 6, 2003)*

This is suggesting ecological trade-off's for possibly gain of ecological good somewhere else. This trade-off can be very helpful in improving the ecological habitat overall. The trade-off will be discussed in more detail later on. However, it should be emphasised that from a deep ecological perspective it does **not** mean that when an area has already been changed due to human intervention that it can immediately be viewed **as available** for development. Ecologically-damaged areas can be rehabilitated and this should always be viewed as an alternative to development.

The consultant gives herself away as a shallow ecologist by stating:

*"We are ultimately powerful and we alter everything we come across and I think that, that's the way we're used to thinking and the way we're used to looking at development, to turn it completely around, you should probably go right back and say we shouldn't have ever touched anything and that's a problem. Now that we have messed certain things up, we have to manage them. I think ecological justice to me would probably be to manage the ecological processes with minimal disruption, minimise the necessary destruction and you just influence it to the degree that it requires it to maintain it's integrity, obviously it depends on the project, cause if you're going to go and clear an area of twenty hectares of indigenous forest, there wouldn't be any justice there." (Respondent 6, 2003)*

The idea is that humans are all powerful and implies that humans are separate from nature and not part of the natural system. As stated in Chapter 2 (p.21) Pepper (1996) states that shallow ecologists consider that humans and nature are separate, and that

satisfaction of human needs is dominant. Humanity's relationship with nature is that of dominance. She does however state that ecological integrity should be maintained. WESSA's argument then becomes ecologically stronger and links with aspects of ecological justice such as limits to growth and ecological integrity:

*"Ecological justice will also entail looking at how those ecosystems function. And that will be the justice if you actually pay justice to that ecosystem and know what are all the parameters that are laid down here? By doing something we are actually weakening the ecological chain here. And to be big enough to say that this Municipality has reached it's carrying capacity, finished, end of story and that one more house will be one to many and that is your carrying capacity so you will never build that one more house. There is a carrying capacity. We put animals in fences and we work out the carrying capacity, why do we not do it to humans by saying you have reached your environmental carrying capacity. You can not have any more septic tanks or you can not pump any more raw sewage out to sea. Because that has a cumulative effect and it has been proven now scientifically". (Respondent 7, 2003)*

From all the respondents it was clear that the Deputy Head from the Environmental Management Unit at eThekweni Municipality had the clearest understanding of ecological justice:

*"The common term is environmental justice, my position is that, that generally overlook ecological justice in the sense that, ecological justice is essentially drawing on the deep ecologists view that the world outside of the human existence has a very real right of its own to exist and to me that is what ecological justice would mean. It is the kind of interventions that respect that right and actually makes provision for it which is interesting because one gets the sense that, that is not something that will always end up in a win-win for the human race. It might require a win lose on our side and I do not think that society is big enough to adopt*

*that. Environmental justice annoys me to the point the only aspect they find important is the various distinctions between various aspects of human society and how they are impacted upon. While deep ecology looks at they right of the non human world” (Respondent 1, 2003)*

Here she touches on the aspect of the ecological environment that has rights in its own sense. The idea that the ecological environment has 'locus standi' is derived from the ecological justice principle of nature having intrinsic value. Most of the time the respondents gave fairly vague notions as to what they thought were the natural environment's rights. The best response came again from the eThekweni Municipality's Environmental Management Branch official.

*“The constitution is fabulous, because it says and it gives the environment “locus standi” through NEMA. So that is where you get to your philosophical questions. It depends on your world view and I am renowned for my hard core view, I think at best as a species we are just part of the general mass. So for me the environment is as important as anything we want to do as a species. We have to work hard on its viability and know at some point we will have to give up some things. And again I think that we as humans are not very good at that. Sometimes we have to step back and say that the environment has equal rights and sometimes and it is time for it to win the day we don't. We as humans are very comfortable/happy with the win-win scenario, and therefore sustainable development is a myth and does not really exist. The idea that everything has to be win-win is nonsense, therefore and we are very comfortable to win lose when the lose is for the environment. No matter which scorecard you do, it shows that the environment is always the loser. And that for me is problematic, but that is also a philosophical question.” (Respondent 1, 2003)*

Other notions from respondents were issues such as that wetland has the right to exist, but mostly these rights were placed in terms of the benefits they have for humans: such

as prevention of flooding. Respondents also advised that they felt there were certain conditions that prevented ecological justice from being upheld. The Hibiscus Municipality's representative stated:

*"I think the, the whole environmental thing there took a second place came, it wasn't a priority, like, this is a sensitive site and lets develop it due to a sensitivity..... it was a case of get the whole development right and lets see if we can you know make the greenies feel better".*  
(Respondent 2, 2003)

Other reasons were also historical, as a representative from WESSA explained:

*"Bad old planning allowed for inappropriate development rights; if they were more pro-active they would have taken cognisance of a 1973 environmental plan. The Municipality cannot expropriate land now. Now we are sacrificing 98% of all our sensitive areas due to historical planning decisions" (Respondent 7, 2003)*

It is clear from the respondents' comments that there are only a few decision-makers that understand the concept of ecological justice, and only one that has a knowledge of ecological justice that is congruent with the literature on ecological justice. This should be a reflection on how the ecological principles could have been addressed in the decision-making processes for the development of both Koelwaters and the Sipumulele housing development.

### **6.3.2 Addressing ecological justice principles:**

The respondents generally understood ecological principles to be ecological processes and how these processes should be maintained. These respondents stated that these processes included:

- Natural open spaces that need to be maintained
- Development should stay out of the 1:100 year floodline to ensure that the riparian areas stay intact

- The maintenance of air quality
- No impact on ecosystems
- Protection of rare endemics species and
- Protection of biodiversity

While, in fact, it is true that the maintenance of ecological processes is one of the ecological justice principles, none of the respondents mentioned the other principles, when the question was asked which ecological justice principles should be maintained in the scoping process. However from various other questions the respondents did cover, to a greater or lesser degree, the other ecological justice principles as follows:

### ***Was the development needed?***

One of the critical questions of deep ecological thinking is to ask if the development is really needed. Not one of the interviewees felt that these developments were not needed. Their reasons were as follows:

#### *a) Koelwaters*

The Koelwaters development was needed from a financial perspective. The developer was not able to generate sufficient income from the caravan park to cover his bond and the rates on the land. This meant that he was at the point of closing and retrenching all the people working for him.

Regarding whether the development was needed from an ecological perspective, it was argued by the environmental consultant that the current sewage system was in a bad state and it polluted the estuary on an annual basis. With the new development, this system was replaced with no further pollution of the estuary. The other aspect mentioned was the removal of the low level bridge which will assist in the natural flow of the river into the estuary. The question is, however, if this was a real gain and not just a small gain against a number of larger losses. Is the ecological environment really better off after the development?

The WESSA officials felt that the way the site was developed and the type of development that was allowed was incorrect, and they felt that there had been an unique opportunity to develop the site in environmentally-friendly manner that had now been lost:

*“Koelwaters in the way it was developed was not needed, in the way it developed around the edge of the estuary. There is also an overflow of development in this area. He should have developed from the hotel backwards. You should have maintained the integrity o the mouth of the estuary.” (Respondent 7, 2003)*

Richard Boon who was part of WESSA at the time of the Koelwaters development (is now employed by the eThekweni Municipality). His comment on the development included:

*“The Koelwaters development was not needed. I have a dilemma, the short answer is no. Due to lack of management of assets developers will not need to develop as often and as much as they do. There are positive spin-offs of such developments if they are planned correctly, the ecological environment can be protected from damage and things such as dumping. The best other land use for that site is something conservation-orientated. Like a nature reserve with a recreational component in it”. (Respondent 10, 2003)*

It could be concluded that it is understandable that the developer was having financial problems and that the site had development potential. But the specific type of development and, the manner in which the development interacted with the environment, place question marks on the appropriateness and real need for the development. This raises questions about the ecological loss and hence with the principle of ecological justice of whether the development was needed.

*b) Sipumulele*

Sipumulele was necessary due to a high social need and pressure on the area. The areas around Sipumulele known as Claremont and Kwadabeka were fully developed. Through these areas is a wide road reserve for the MR577, a provincial road connecting the New Germany area with Newlands. The road reserve was invaded by informal settlers and densely populated. There was no other land available in the area apart from Sipumulele to relocate these informal settlers. In terms of old strategic plans for the area, Sipumulele was identified in 1985 as an extension area for Claremont and Kwadabeka. It was felt that the development of Sipumulele was therefore unavoidable.

From a social perspective there was clearly a need for the Sipumulele development. When relocating people it is ideal that they are not relocated very far from where they originally were. This assists them in maintaining their social support structures. The unfortunate aspect to the development was that the land was also seen as an important part of the eThekweni Municipality's DMOSS System. As the official from the Environmental Management Unit stated:

*“There is no question that housing development are needed, but it becomes a question as to where you locate them. The outcome of the development was probably at the end of the day fair. In an ideal world though you would not have used that site. Other land uses that could have been considered would have been, a cemetery, sand winning. Should you have done something relating to conservation I think it would have been unrealistic, Kranskloof nature reserve is just around the corner and you would not have been able to get another one.” (Respondent 10, 2003)*

One of the problems with DMOSS-identified parcels of land is that they usually form part of catchment systems and due to location do not always lend themselves to a variety of land-uses. As the eThekweni Municipality further explains:

*“You know in terms of the way we planned the open space system that should have remained, natural and, and natural in the sense, indigenous catchment vegetation, there was very little you could do, with that. Um, you know, I mean one might sort of think sort of boldly and, and say well you could have turned it into some kind of indigenous park for the surrounding communities. Unrealistic um, probably wouldn’t have even be utilised but that, it should of in fact remained open and so for us there wasn’t really a, another development alternative, any development would have to have been challenged.” (Respondent 10, 2003)*

It is clear that this development was needed. And should the development not have taken place there was a real threat that the land would have been illegally invaded. It was also argued that allowing the development at its reduced scale allowed for a win-win solution. The majority of the open space was still undeveloped, but allowing some development prevented the open space from being invaded in an ill-managed and un-serviced manner.

It can further be concluded that the question whether a development is needed does not get asked by the environmental decision makers. It is therefore a matter that does not really get asked or investigated. As part of the question if the development is needed is also the question if there should be any development at all? It should be standard practice that during the environmental decision making process the ‘no development’ option should be considered. During the approval of these developments the no development option is touched on but is very quickly justified as an option that is not economically viable and it can therefore be argued that the ‘no development’ option was not really considered. Accordingly, principle one of the ecological principles has not been complied with.

### ***Nature has intrinsic value***

This principle can only be addressed if the decision-makers themselves are convinced that nature has intrinsic value. The concept of nature and its intrinsic value is a deep ecological principle and as discussed earlier only WESSA and the eThekweni

Municipality really had deep ecological considerations in their views on ecology and the ecological environment. From the interview with eThekweni officials it was clear that their requests to do more vegetation studies for the Sipumulele development were ignored by DAEA. So the only decision makers or in this case advising authority that were able to influence the decision making process to comply with the principles of ecological justice were marginalised during the decision making process.

In the Koelwaters development, WESSA and KZN Wildlife were the only bodies that had stronger ecological justice values compared with any of the other decision makers. During the approval process for Koelwaters there was regular conflict between KZN Wildlife and the developer. There were also times when DAEA and KZN wildlife did not get along. Inputs and comments provided during conflict situations could more readily be sidelined.

### ***Minimal intervention/disturbance into nature and its processes***

#### *a) Koelwaters:*

Although the Koelwaters site was not in a pristine state it can be argued that it was in a more natural state than after the development. There are more hardened surfaces and less vegetation. The foot of the dune is affected by some units. However, on the positive side the causeway has been demolished and was replaced by a bridge allowing for a more natural flow of the river. To be fair, some natural aspects improved while other deteriorated. From a design perspective the impact could have been even less, by developing units that were raised and that were situated further away from the river.

#### *b) Sipumulele:*

The Sipumulele development definitely had an effect on the natural processes. It affected the DMOSS corridor by narrowing it significantly at one point. This will potentially impact on the ability of species to migrate and for island pockets of DMOSS to repopulate. Further impacts on the Umlazi river were:

*"...so it's restricting DMOSS, it's narrowing it down, okay and also there are issues like, the pollution of the river, the soil erosion due to people generally, you know due to habitation. You know waste water and that*

*sort of, issues. So we obviously looked at it in this instance they were going to put in proper sanitation, okay.” (Respondent 3, 2003)*

Some ecological design aspects were taken into consideration such as ensuring the drainage lines were protected, but on the whole it cannot be argued that there was a minimal intervention and disturbance of nature and its processes.

### ***Ecological integrity should be maintained***

As was mentioned before, the principle of maintaining ecological integrity was the principle that was highlighted when respondents were asked which ecological principles should be addressed in the scoping process. Both the case studies were regarded as being situated on sensitive parcels of land. One respondent explained as follows:

*“The particular ecosystem at Sipumulele is quite rare in the city. There were various other aspects that were also important such as the steepness of the land the drainage areas. It was sensitive, but also not the most sensitive in the city. We will also only now be able to determine exactly how sensitive because of the type of assessments we are doing now.” (Respondent 10, 2003)*

The maintenance of ecological processes that should be upheld in the scoping process and the development of land that were mentioned by the respondents were as follows:

- Ideally all wetlands should be demarcated very clearly to inform the decision-making process. The preservation of catchment areas, that are under pressure to be developed.
- Smaller environmental pockets of land assist in the creation of meta populations.
- Use appropriate fencing that allow for the movement of small animals.
- Remove previous things that were constructed (like a sea wall) to allow for the natural functioning of the estuary.
- Maintain ecological corridors such as DMOSS.
- Develop outside of the 1:100 year flood line and protect the riparian corridor.
- The provision of potable water will protect the river from pollution

- Keep development out of the drainage lines, and provide buffer strips on either side of the drainage lines.
- Provide sufficient refuse removal to prevent people from dumping garbage into open spaces, rivers and drainage lines.
- Prevention of sedimentation of rivers, by enforcing better agricultural practices throughout the catchment area. Thus protect catchments to ensure that rivers stay functional.

As was reflected in the theory, it is critical that ecological processes should be maintained for ecological justice to be accomplished. But time and again the value of the processes are undermined and undervalued. As an eThekweni's Environmental Unit official explained:

*"Given Sipumulele's location in our major upper catchment area and adopting a view of ecological services as the sort of, under-pinning element of a functional city, it's certainly a piece of land that should never have been developed also it's topography, it's just, you know mitigates against development." (Respondent 1, 2003)*

It can be derived that although most role players in the development process understand that the ecological processes exist and should be maintained, they do not always understand all the detail relating to these processes and they do not all value these processes on the same level. The eThekweni Municipality official had the most in-depth understanding and explanation of the ecological processes and the maintenance of ecological integrity.

*"I think the big principle is that the scoping must address not only site specific issues such as stormwater and red data species, but it has to look at the viability of the urban landscape. I think that is the big missing principle. The reason that we are going on is that our open space system project and that, that natural resource base that is the ecology of the City is in fact what delivers the basic services, it is the foundation for all*

*development and is in fact the biggest service provider of all".*  
(Respondent 1, 2003)

### **Limits to growth**

The concept of limits to growth was not directly mentioned. But an issue that relates to limits to growth is restricting the scale of a development. Thus being aware that there should be a limited number of dwelling units allowed to be developed, especially on ecologically-sensitive land.

All respondents except for the developers said that the scale of development should be restricted. The eThekweni Housing Unit wanted more sites in the Sipumulele development because there is such a shortage of low cost houses in the city. Wherever they can find more sites they want to develop them. For the Sipumulele development they wanted to develop 1000 sites but due to environmental restrictions they were only allowed to develop 806 sites. They were however happy about the final result because it was critical for them to remove the people that lived in the road reserve. Now the people that were living in informal dwellings in the road reserve have formal housing with serviced sites, and the authorities are able to build the road.

The developer of Koelwaters wanted more units because that would mean more profit. They originally wanted to develop 120 units, but at the DFA hearing the number was reduced to 90. Afterwards the numbers were even further limited to 60 because the municipal sewage system was unable to handle more than 60 extra units.

The rest of the respondents all felt that the scale of both of the developments were too great and felt that there should have been reduced numbers of units. They also felt that if the scale of the Koelwaters development should have been reduced to protect the estuary and allow it to start functioning on a more natural level. They also emphasised the very limited number of natural estuaries left along the South Coast of KwaZulu Natal. DAEA said they had to consider reducing the scale of the Sipumulele development due to pressure placed on them by the eThekweni Environmental Management Unit. But they felt that the reduction in scale was difficult because of the desperate need for housing. The DAEA official explains:

*“Um again one, one’s got to look at, at the need that’s, that’s evidenced and balance it with the area available and, and so on. Um, also working within a low cost-housing standard of approximately two hundred square metres per plot, was the minimum, developable platform of eighty square metres. Um there wasn’t a lot of room for reducing the size of, or reducing the area in extent of, of the property that was developed.” (Respondent 10, 2003)*

Uncertainty as to how the appropriate scale of development should be determined was raised. Most replies were based on a gut feel and not on a scientific assessment. But they did state that aspects such as waste water can play a role in determining the scale. It can be concluded that there is a real sense that the scale of a development should be addressed and some measuring tools should be developed to determine the appropriate scales of development in different environmentally-sensitive areas. It is dangerous to determine the scale based on the restrictions of what capacity the sewage works has. This is not a long-term solution because sewage works can just be upgraded, expanded and improved through technology.

It was also highlighted that in some cases when a development is allowed at an appropriate scale and with appropriate ecological design it can improve the ecological functioning of the area. As the eThekweni Environmental Branch official explained:

*“It is difficult to say what impacts will be , and there are no hard and fast rules with regard to densities and more re-landscaping. I think the Zimbali development on the North Coast is now a better ecological functioning system than what it was before, so that is possible, so there could have been done more with regard to Koelwaters”. (Respondent 10, 2003)*

Another aspect relating to limits to growth is cumulative impacts. Site by site developments and assessments do not take cumulative impacts of growth into consideration and the impact that will have on the overall landscape. As the eThekweni Municipality official states:

*“ I think the big principle is that the scoping must address not only site-specific issues such as stormwater and red data species, but it has to look at the viability of the urban landscape. I think that is the big missing principle.” (Respondent 1, 2003)*

She further explains;

*“The scoping process addresses site-specific issues, but especially in the urban environment what remains of the ecological environment is so fragmented. By definition if you are impacting on the one you are impacting on the viability of the whole.” (Respondent 1, 2003)*

It is clear that the consideration of limits to growth has complications such as the exact or even approximate determination as to what will be an appropriately-scaled development is lacking. The assessments of development are done on a site to site application and not on a strategic city-wide or catchment-wide level. This can be due to unsupportive or lack of appropriate strategic city development and environmental plans.

### ***Inter-generational equity***

The concept of inter-generational equity was only mentioned by WESSA. WESSA linked this concept with sustainability in line with some definitions for sustainability. However, the WESSA respondent proceeded further by criticizing the generally perceived interpretation of inter-generational equity by stating:

*“You should also look at the definition of sustainability from a biological point of view; looking at how much can this environment take. The Brundtland definition that states that these things should be here for future generations, means nothing because it is all based on economics it is not based on ecosystems” (Respondent 7, 2003)*

They are thus of the opinion that for the principle of inter-generational equity to be relevant, the measurement should go back to the sustainable use of ecological

resources. This is relevant for this research which emphasises that the foundation and root principle supporting all sustainable development should be the ecological environment.

### ***Equal consideration of the ecological environment and its integrity***

The principle of equal consideration of the ecological environment and its integrity links strongly with the section dealing with trade-offs, but it also needs to be recognised in the role it plays to facilitate ecological justice. In the assessment of developments the ecological environment should carry the same weight as any of the other environments. However, it is apparent that the ecological environment is not given the same consideration as the social and economic environments.

The respondents regularly stated that equal consideration would have been good but realistically that is not possible. The environmental consultants for Sipumulele held the view that:

*“The ideal land use would be to keep it as DMOSS you know, as an ecological corridor, okay, connecting these areas of ecological value. So, no ideally yes from a, a conservation of ecological point of view, uh the ideal would be to keep it as DMOSS area” (Respondent 3, 2003)*

DAEA said that they always refer to the principles of NEMA. The principles have the well being of humans as the core principle. The principles therefore imply that the ecological environment is not as important as the development of humans.

*“Obviously the main thing is for it to be protected through legislative and other reasonable means, as per the constitution’s Bill of Rights. And after all, the ecological environment is what supports all the social economic activities. So one endeavors not to compromise the integrity of the natural environment of the site. It is significant when we come back to the NEMA principles, and say thank goodness for those, those, they’ve helped us a lot” (Respondent 4, 2003)*

The Housing Department for eThekweni Municipality stated they felt that the environment was sufficiently considered during the development process and that they did everything legally required of them. They also felt very strongly about the fact that if the Sipumulele development did not go ahead they would not have been able to save the rest of the open space and prevent illegal invasion. On the other hand the City's Environmental Management Unit official felt that there was not equal consideration of the ecological environment. They felt that there were not enough studies undertaken and that the landscape was not valued.

*“But by that stage the politics and tension had become such that we were really fighting for the landscape rather than individual species because without the landscape the species, if they were there, just weren't going to survive at all and that was the pressure, trying to get sufficient of that site protected in order to secure viability along that corridor, we, we weren't looking species specific at that point we were looking at a landscape level”. (Respondent 1, 2003)*

Further to the above, the Environmental Unit official mentioned the importance of the role public participation plays to make sure there is equal consideration of the ecological environment. A very alert public improves the chances that consideration of the ecological environment will carry more weight when there is little public interest. For the Sipumulele development there was almost no public stakeholder participation, and the only ecological support came from the Municipality. DAEA therefore only had to override the Municipality's concerns and did so fairly easily. At Koelwaters there were far more public participation and outcry with regard to the ecological aspects of the site, and it took DAEA longer to approve the development. The Koelwaters development had far stronger restrictions relating to it than Sipumulele did.

### ***Precautionary Principle***

None of the respondents ever alluded to the precautionary principle or that it should be implemented. However, the question of; “Do you know if any scoping report was ever turned down?” does touch on the concept of the precautionary principle.

Most of the interviewees did not know of any scoping reports that have been turned down over the last five years. Although no one had any statistics on the matter, it was definitely a perception that the Department of Agricultural and Environmental Affairs (DAEA) never turns down any scoping report and will always issue a Record of Decision. When the questioner was asked of the Department themselves they stated that there were a "couple" of scoping applications that were turned down, but no specific number could be given. It should be mentioned that at the time of the interviews over 4000 scoping reports had already been submitted to the Department for approval. It was further explained by the Department that should a developer realise that his proposal will not be approved, the application will often be withdrawn before the department formally turns it down.

KZN Wildlife stated that in their experience, applications were almost never turned down and that in situations regarding proposals over very sensitive land, applications were only referred for changes rather than rejection.

Another example of disregarding the precautionary principle is with the environmental approval of the Sipumulele development. The Municipality's Environmental Unit originally supported the development subject to certain changes. However, with further investigation they felt that there was a lack of information about the site and that further ecological surveys should be undertaken to enable a more informed decision. They then informed DAEA in writing that they were withdrawing their support for the development and requested the further ecological studies to be undertaken. DAEA went against this and approved the environmental scoping application. This is a clear indication that DAEA did not apply the precautionary principle. The Municipality was not in a position to appeal as the record of decision came out when the Manager of the Unit was on leave and when she returned the appeal period expired.

The low number of un-approved applications definitely leaves a question mark on whether the precautionary principle is ever implemented in the environmental decision-making process. Although non approval is not the only way of determining whether the precautionary principle is practised, it can be viewed as indicative. Although the DAEA

is often criticised for delaying developments due to the slow processing of applications, they will most definitely not be criticised for preventing development from taking place.

### ***Maintaining an ecological sense of place***

#### *a) Defining “ecological sense of place”*

Only the KZN Wildlife respondent directly commented on the matter of ecological sense of place. She explained that although the caravan park was probably not very visually pleasing, it only had a visual impact during peak seasons. The new development has a much more intrusive impact and is far more visible from the beach. Her comment was as follows:

*“Much higher obviously you dealing with hardened surfaces which are painted in glorious white and they’ve moved the houses far further round so you’ve now got a visual impact from further up and down the coast, to me it’s destroyed the sense of place, the character of the estuary.”*  
*(Respondent 1, 2003)*

This is an important aspect of development and affects the other local residents’ quality of life. It is an ecological principle that is sometime subtle and difficult to measure. Although there was not a strong response from interviewees on this matter it can be investigated by analysing how the developments were designed with nature. The ecological sense of place for Sipumulele was severely impacted. The once abundant grassland was change into an aesthetically unappealing housing project. The ecological sense of the valley as a catchment area was lost due to the housing development

#### *b) Designing with nature*

Layout Design:

It was felt that the design of the layout was not adequately addressed by decision-makers. It was stated that with the right design and engineering, a development such as Koelwaters could have had a moderate impact on the estuary.

The following concerns were raised with regard to the layout of the Koelwaters development:

- The development cut into the toe of the dune.
- The development should have started on the terrace above the estuary not on the terrace on the same level as the estuary.
- The DFA judgment required a 15 metre setback. Of this, the first 5 metres should be left to grow naturally, the next 5 metres should be managed to control alien plants and the last 5 metres can be cut. By allowing buildings on the same level as the estuary, the lower units' views will be impaired because in five years' time there will be bush in front of them. Accordingly, these units will not allow the vegetation to grow freely.
- Because the developer is still mowing the lawn next to the estuary and not allowing it to grow back naturally, new owners do not realise that they are not supposed to mow the lawn and that makes it difficult to enforce the environmental development criteria.
- There are houses that are too close to the mouth of the estuary.
- The view from the beach has been spoiled by the houses.

The developer would have the requirement removed which states that the vegetation on the edge of the estuary to grow back and not cut it down. He knows that he will have very unhappy buyer that will only realize in 5 to 10 years time they paid for a waterside property but they will not be able to see the water. The fact that the properties were actually built outside of the 1:100 year floodline does not mean that they will not be affected by floods as, Irene Hutton from KZN Wildlife explains:

*"...this whole thing of floodlines is garbage, well okay, qualified statement; floodlines does not really seem to apply to estuaries. It's something that Nicky Demetriatres and myself have been looking at because we were busy revising our own estuaries policy. When you look at an estuary you either have a closed mouth estuary or an open one where you find water that isn't going the same way. And particularly in a situation where it might be closed or you have structural impediments, like*

*the hard wall at Koelwaters or in other places you have railways your water backs up and, and rises much higher than your one-in- hundred years floodline. You are subject to very high floods for short periods of time. We spoke to a number of people who camped there for many years and reckoned they were often knee deep in water and those were just from small, thunderstorms.” (Respondent 5, 2003)*

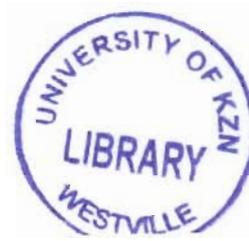
KZN Wildlife stated that they do not want houses developed at the estuary mouth. One of their requirement was that the wall at the mouth had to be demolished because then the estuary mouth would be able to return to its natural function. This is also supported by the Coastal Policy.

The following concerns were raised with regard to the layout of the Sipumulele development:

- The Environmental Unit felt that the development was still too close to the river and took away too much of the riparian corridor thus preventing the meaningful preservation of ecosystems.
- It is very difficult to determine sufficient width for buffer strips.

DAEA advised that the development stay out of the 1:100 year flood line and this was viewed as a sufficient enough corridor to maintain the riparian vegetation and to prevent any flooding. Clearly DAEA and the Municipal Environmental Management Unit felt very differently about what is a sufficient corridor. The Municipality official explains further:

*“It was too close and, and took up too much of the valuable potential corridor you see along our rivers. You’ve got very few opportunities for, what we refer to as a kind of no door, open space development where you can actually take the corridor outside of the floodplain into meaningful preservation of eco-systems around there. At Sipumulele we had that choice because the land gets very steep as it goes to the west so there was really an opportunity to move from a kind of grassland savanna complex up into the much more wooded land that was along the steep*



*areas and so create quite a significant regional open space node. You've got to have as many of those nodes as possible to keep the river functional". (Respondent 1, 2003)*

On the other hand, the Municipal Housing Department official felt that more than enough was done to design with nature. This again highlights the conflict of ideas and understanding of ecological protection that has to be mitigated during the scoping process. It is clear that although there was some consideration with regard to layout design and designing with nature, layout design could have been improved, and that enforcement of the required design proposals should be improved.

#### Building Design and Materials

The use of more sustainable building material and more sustainable building design has not been promoted by anyone with regard to these two developments. The decision making authority, DAEA stated that:

*"I don't believe we do, no. I don't think so. Obviously one encourages the utilization of green housing principles from a policy perspective. But it's sometimes difficult because then I think perhaps it is also a capacity issue where staff really hasn't had the time to devote to considering the materials in depth. You see in terms of looking at those greater sustainability issues you can always do a pass-the-parcel and say consider that it should be local government intervening." (Respondent 4, 2003)*

The scoping process is one of the ideal tools to facilitate the use of sustainable building practices. Even if the Local Authority does approve building plans, the role of the scoping process should not be underestimated. However, DAEA did indicate that should a development cause a specific environmental problem such as air pollution, they will insist that the problem be mitigated by technological solutions such as scrubbers and filters.

The consultants all thought that the scoping process is an opportune moment to make such suggestions, but they all said that they never really consider doing it. One of the consultants stated:

*“There is potential in the scoping process to address alternative, more ecologically-friendly forms of building practices, but that one should be mindful of the costs relating to it”. (Respondent 12, 2003)*

KZN Wildlife respondent said that from time to time they definitely, do make some suggestions to use more sustainable building material and design. They also mentioned that with Koelwaters there should have been more input with regard to the building of the units, because different houses have different impacts. The Hibiscus Municipality official also stated that a more eco-friendly type of development would have been more appropriate for the site. As WESSA representative stated:

*“Your architecture and design should have taken the aesthetic value of the estuary more into consideration and then the reintroduction of indigenous vegetation. Better footprints of development. It is infringing on a monument”. (Respondent 7, 2003)*

No one except the developer thought that the Cape Dutch style architecture was appropriate for that development. As he stated:

*“I think they are very visually appealing and far more in tune with the environment than San Lameer. We could have developed far more, but we decided not to be so greedy.” (Respondent 9, 2003)*

For the Sipumulele development it is a bit more challenging to suggest more sustainable building methods. This is because the development of low cost housing has very limited budgets. The houses are built in the most cost effective manner possible. The ideal would be that there should be more sustainable and cost effective material

than the conventional brick and mortar. Such models do exist, but are not widely practised.

#### Alternative Forms of Energy

Not one of the respondents ever proposed the use of alternative forms of energy such as solar energy or gas. All developments are powered by conventional electricity generated by ESCOM. DAEA explained why gas is not used more often.

*“The cost of Sasol gas at this point is little. If industry is complaining about it as a, as a costly fuel source then I shudder to think what these people would be saying. Although there, there some people who use gas as a pure source for cooking up in, a Jo’burg, but they much closer to where the gas is, is produced um than, than all the transport costs that are associated with getting it down here”. (Respondent 4, 2003)*

The low cost and easy accessibility of conventional electricity works against the use of more sustainable energy sources. This is a typical short-term solution long-term degradation and environmental cost argument.

#### Rehabilitation and Landscaping

Some of the rehabilitation and landscaping requirements that were part of the approval for the developments have been mentioned previously. But to provide a good overview of everything that was required they are listed as follows:

##### Koelwaters:

- All indigenous trees were marked and retained, and the development was designed around these trees.
- The development had to be 15 metres away from the edge of the estuary. The first 5 metres of the buffer had to left alone and allowed to rehabilitate and grow back by itself, the second 5 metres had to be managed by pulling out all exotic plants and the last 5 metres closest to the houses were allowed to be mowed.
- The wall next to the estuary had to be removed to enable the mouth of the

estuary to manage itself naturally.

- The low level bridge over the causeway had to be removed and replaced with a bridge that would not restrict the flow of the river into the estuary.
- The sand-winning operation was to be discontinued and the area was to be rehabilitated.
- A permeable fence was to be erected around Tragedy Hill to facilitate the movement of small animals.
- The applicant had to comply with an environmental management plan (EMP) that required the above mentioned rehabilitation work and general guidelines for managing stormwater runoff during the construction period.

The above mentioned criteria for the development are good, but require that the developer should implement them. So far the developer has been fairly reluctant with some of the criteria such as the demolition of the wall next to the mouth of the estuary and the rehabilitation of the edge of the estuary. He also was perceived as being uncooperative with regard to these issues so that when he approached the DFA tribunal with a request to build more units and make some changes to the development, they refused. It was felt that as he had not complied with all the previous requirements he could not be trusted.

#### Sipumulele

There was no specific rehabilitation or landscaping requirements for the Sipumulele project. There were layout requirements that prevented development within the 1:100 year floodline and the drainage lines. Development was not allowed on slopes steeper than 1:3. The development was also subject to an EMP, but it was a very general EMP that did not call for anything out of the ordinary. There are no arrangements in place to prevent the areas that were not developed from being degraded, as the eThekweni's Environmental Management Unit official states:

*"In real terms the buffer areas in the development will not be protected or managed at all. The ideal would be to minimise human interaction with these areas as far as possible". (Respondent 1, 2003)*

There are many benefits to designing with nature including the increase in desirability of the development especially in a society which is becoming slowly but surely more ecologically aware. As the WESSA representative states;

*“Environment will add value to your development. It will become a selling point”. (Respondent 7, 2003)*

It is clear that there could have been substantially more input in the development approval processes, and particularly during the scoping process relating to designing with nature. It is also clear that even when the authorities do require the implementation of these principles, the developers cannot always be trusted to implement them. Local Government, especially, is renowned for their lack of ability to enforce planning and environmental regulations. Non-enforcement by the authorities negates their power and sets dangerous precedents. This links again with the aspects of the institution and how dependent sustainable development is on a strong and healthy institution.

To comply with and implement the ecological principles is possible with political will, which depends on the priorities and values of the decision-makers. The extent to which ecological principles with regard to the case studies were addressed can be summarized as follows:

	Principles	To what level was the principle addressed.
1	<b>The question should always be asked; do we need it?</b>	<p>There was a perceived economical need for the Koelwaters development. The arguments were weak in proposing that this specific type of development was the most appropriate or only option.</p> <p>There was a real social need for the Sipumulele development.</p>

2	<b>Nature has intrinsic value.</b>	The concept of intrinsic value was only understood by a one of the decision-makers. There was weak support for the idea that nature has intrinsic value.
3	<b>Humans should have minimal intervention/disturbance into nature and its processes.</b>	The concept was supported, and was mostly implemented through the mitigation of impacts.
4	<b>Ecological integrity should be maintained.</b>	The notion that ecological integrity should be maintained was well understood and supported, but whether it happens in reality can be questioned.
5	<b>There are definite limits to growth due to scarcity of resources.</b>	The concept of scale of development was highlighted. Assessment and understanding of what those limits are is weak.
6	<b>Inter-generational equity.</b>	The idea is not well developed and does not form part of the decision-making process.
7	<b>Equal consideration of the ecological environment and its integrity.</b>	Very weak equal consideration of the ecological environment. Higher value is placed on humans and economics during the decision making process.
8	<b>Precautionary principle.</b>	Implementation of the principle is very weak although everyone had a feeling that it should be there.
9	<b>Maintaining an ecological sense of place. These will include aspects of rehabilitation, alternative forms of energy, alternative forms of building material, building design and site design.</b>	This principle was better addressed in the Koelwaters development, but it seems that it is badly implemented. Sipumulele was neglected due to weak public participation and the nature of the provision of housing by government.

On the whole it can be concluded that the implementation of the ecological principles is weak. Some of the decision-makers understand the principles very well but their influence in the decision-making process is limited because they are not the final approval body.

#### **6.4 The development of the advocacy role**

As part of positioning ecological justice in environmental decision-making it is critical to understand the perceptions relating the advocacy role of the role players in the development process. This role is investigated in terms of who should carry the responsibility of the role and how well this advocacy is developed. There were mixed responses from the respondents as to how well the advocacy role for the ecological environment is developed in South Africa.

##### **6.4.1 Who is responsible?**

The overwhelming response from the interviewees was that they felt that the advocacy role for the ecological environment was the responsibility of KZN Wildlife. It was perceived that in terms of legislation and governmental structures, they were allocated the prime responsibility to advocate on behalf of the ecological environment. As the DAEA official stated:

*“As custodians of bio-diversity in the province, our colleagues at KZN Wildlife are the lead agent in that regard.” (Respondent 4, 2003)*

It was also mentioned that should the development fall within the eThekweni Municipality, the Municipality's Environmental Management Unit also carries a strong advocacy responsibility. DAEA will significantly rely on their comments for any development proposal. It was felt that KZN Wildlife and the Municipality's Environmental Unit have the responsibility to advocate on behalf of the ecological environment and that DAEA has the responsibility of balancing all the aspects relating to ecological, environmental and social environments. The eThekweni Environmental Management

Unit official had the only alternative idea as to who has to carry the advocacy role. Her comments were as follows:

*“Everyone should be that spokesperson, in fact there should not be a spokesperson, we should all live lives that reflect that interrelatedness with nature. That is my final answer that all these laws are actually ridiculous and we will not be able to change anything unless we change human society. For me that is the answer, we actually need a social revolution. I think that it is the only way out, just in terms of the species and our global economic structure that governs the earth. We are tinkering with law and subsidies and our fundamental relationship with the global environment is wrong and you need to change it and that will require a massive social revolution, the question is can it happen, will it happen and will it happen in time? You know even the dinosaurs thought they were great for a while, and you have to have a population extinction for every species that maybe this is just our natural path to it?”*  
(Respondent 1, 2003)

The idea that everyone has the advocacy role is an ideal, and especially when it starts with the developer him/her self. Then there will be a complete turn around with regard to the type and sensitivity of development proposals. This is however just an ideal and most developers are only driven by economics. It will still take some time until developers become more orientated to sustainable developments that have potential to also be economically beneficial.

#### **6.4.2 How well is it developed?**

There were three predominant responses to this question. The first was from DAEA expressing that in their opinion the advocacy role is well developed especially in KwaZulu Natal. The second type of response stated that the advocacy role is developing and improving. The WESSA representative expressed that there is

inadequate advocacy of the natural environment in South Africa and that there are some obstacles in a developing country:

*“It is getting there but the problem is we are working in a third world country where you raise any kind of advocacy for the environment you are seen as a racist especially where it has to do with developments benefiting the black population. While the conservationist is apolitical. It should really be understood that it has nothing to do with race, colour, gender or sex, but about, do you have clean water do you have shelter and that is what it is about and unquestionably advocacy is about in western countries are very well developed and even if this Government has the best environmental laws in the world they do not have the political will to carry it out. The history is there if you over grazed where will you go”. (Respondent 7, 2003)*

Some of the other respondents explained that they thought that the advocacy role is improving due to better databases relating to species. This information gives them the knowledge to constructively argue for the protection of the environment. The advocacy role has improved because of better information supporting decision-making. eThekweni Municipality expressed that their decision-making is far more rigorous now than in 1999 when they started to implement the EIA regulations (Respondent 10, 2003). It was also expressed by one of the consultants that they felt the role improved partly due to better communication and relationship-building between KZN Wildlife, consultants and developers.

The third type of response was that the advocacy role is not well developed at all. One consultant explained that this is because people’s basic needs are still not met and thus the ecology is the last of their concerns. The eThekweni Environmental Management Unit official stated that:

*“It is not well developed at all, you can see it in the kind of work we do. With the label of the environmental branch, somehow the environment is*

*only our problem, somehow by the creation of different institutions, for a institutional basis, so who controls the environment, clearly I do, because it says that I am the Environmental Management Branch, so to try and explain to people that we merely play a function in the whole system, that we facilitate, and we have some environmental expertise like biodiversity planning and we will put that in the pot, but there is an overall responsibility from everyone. Everyone should see themselves as environmental managers, like wastewater management and electricity they are key environmental managers. Even should you adopt a very narrow view that the advocacy role should be pegged somewhere in the broader society, like an egalitarian view, then there are certain things that everyone should take responsibility for, like health. But it is uncomfortable to do that because it is usually an area of conflict and it is therefore more comfortable to give it to someone that will fight the fight. So it is not well developed and there is no understanding, and we find that every time we go back into local government and we are busy with the sustainability best practice portfolio, and it is amazing to see how many people do not understand that they themselves are environmental managers and this is coming out of sectors that are actually direct environmental managers through their work". (Respondent 1, 2003)*

The idea that the advocacy role should be supported by everyone in society and should not be lumped with one specific sector of government is supported. This is also in line with deep ecological philosophy.

#### **6.5. Trading off different component of the environment**

To understand why ecological principles are not adhered to and are not implemented, one needs to understand the decision-makers' values. These values or priorities will explain why they make certain decisions and what role ecological principles will play in their decision-making process. It should be kept in mind that the values are influenced

by the decision-makers' backgrounds and education, the function of their current position and the legislative context in which they operate.

### 6.5.1 Primary trade offs

When considering trading off between ecological, social and economic principles it was clear that the respondents felt that the ecological environment is never regarded on the same level as the social or economic. eThekweni Environmental Management Unit official felt that there was a complete trade-off in favour of the social environment when it came to the development of Sipumulele:

*"I think it is a 100% trade-off in the favour of social justice. It is such a skewed relationship that the only time you get any level of ecological justice is when achieving that does not impinge in any way on the social justice or broader economic imperatives of the day. And it is absolutely 100% skewed presently and I think that is just the product of a fairly immature society trying to find its way out of a fairly dark past".*  
(Respondent 1, 2003)

Then there were also the statements that economics are the most important aspect and everything gets traded off-for money.

*"I think money comes first, second, so that's down to about probably a hundred. I think at the end of the day money talks. Because the majority of people that we deal with, who are doing projects are doing it for financial gain, it's a business venture" (Respondent 6, 2003)*

One consultant made a valid point relating to trade-off's by stating that:

*"...projects are justified on the basis of jobs and, and politics, from the perspective of them actually creating jobs and again from a common sense perspective, the more jobs you create hopefully, there is a reduction on dependence upon natural resources, at the end of the day*

*politics play a great role and on a smaller or larger scale depending upon whether it's election time". (Respondent 8, 2003)*

There is an obvious perception that the protection of the ecological environment is not given much priority in decision-making. The values relating to social, political and economic aspects are the main driving forces.

The eThekweni Environmental Management Unit official also had another perspective with regard to trade-off's. They advised that they have recently become stricter in allowing aspects such as scale and positioning. Sometimes the development process can create environmental and ecological advantages. In Sipumulele it prevented informal invasion and the opportunity for the open space to be developed and used by the community. In Koelwaters it created the potential for the estuary mouth to be rehabilitated and that the low level bridge be removed to improve the flow of the river. The advantages of developments have to be acknowledged. However, it should also be asked whether the advantage outweighs the damages, and if the development could have been improved? It also does not mean that if some protection or benefit resulted from the development that, that was the only way protection could have been achieved. It might however have been the most immediate way.

### **6.5.2 Negotiation of trade offs:**

To further understand the values of the decision-maker it is important to understand how these trade-offs are negotiated. The decision-making authority DAEA is the main negotiator in the scoping process and it is therefore very important to understand how and why they and come to a certain decisions.

DAEA uses the principles of NEMA to guide them through the process of balancing the social, economic and ecological principles. As their official states:

*"But essentially to prioritise them, one's got to look at the NEMA principles. If one looks at NEMA the first principle that is mentioned*

*basically as it stands alone is that you must put people at the forefront of, of development. It then goes on and says that development must be sustainable and gives a whole bunch of criteria by which that is then judged and, so we need to, to apply those principles to each development application and see the extent to which the principle applies or doesn't apply". (Respondent 4, 2003)*

Throughout the interview with DAEA it was mentioned that they always make use of the NEMA principles, and the principle of placing people and their needs on the forefront was constantly emphasised. It was as if this particular principle is more important than any of the other principles mentioned in NEMA. NEMA clearly states that development should be socially, economically and environmentally sustainable. The legislation then goes ahead and stipulates twenty five other aspects, ten of which are also directly related to environmental and ecological aspects. It is clear that they value the principle of placing humans' needs at the forefront far more than the other principles. DAEA gave an example of how they will negotiate the process:

*"...for example in the low cost housing scheme, obviously people's needs are very important and, if it's people who've been living in an informal settlement already, there's all the social imperatives and all the other legislation that is indicating that their standard of living needs to be improved. Then ones got to look at it, in the context of saying well, if that's the case then where is it that, that's proposed that these people are going to live for the future? And saying, what is the condition of the biophysical environment where they are? And what extent is their living there impact on that environment? It becomes quite a simple thing, in saying well look, they are not going to live in riparian areas (for example) apart from the fact that houses get washed away the impact on the riparian areas is to that. Then, you look at how that can be mitigated against. We largely use the NEMA principles and the information that you've got around the environment to a) prioritise it and then b) work out what those trade-offs are going to be, cause those trade-offs could include that development would go ahead then". (Respondent 4, 2003)*

They explained what they had to consider with regard to the Sipumulele Development:

*“Recognizing as Debra said and argued most forcibly that, it was a central area for the DMOSS system. But also recognizing that people needed to move from where they were and when people are moved the first principle is that you relocate them as close as possible to where they were and obviously that their conditions should be an improvement on where they were. And I said that, with that particular area unless we allow an settlement over at least some of the area, the integrity of the area is going to become less because people would informally settle in the area. So we'd rather have them under controlled circumstances than just loosely invading the area. It's a case of basically saying we had to compromise part in order to secure the rest. Debra wasn't terribly happy about that. Especially as she was going overseas at the time, she couldn't do a lot about it. We need to be promoting justifiable socio-economic development and from my perspective what was on the table was justifiable. And I don't believe the DMOSS system was unduly compromised.” (Respondent 4, 2003)*

It is recognised that DAEA's work is difficult and challenging to make sure that the results are balanced as far a possible. Their department is often placed under political pressure making it even more difficult to avoid make popular decisions. It is however very clear from their responses that the ecological environment is not seen as a primary concern, but that the social environment is without a doubt the most important element considered during decision making.

To complicate things, the developer is on the other hand insisting in the realisation of his rights, which can be summarised as follows:

- Rights attached to the ownership of the land.
- Rights with developing the land relating to zoning (qualified rights).
- Documentation and applications reviewed timeously.
- Fair decision taking and the consideration of all the information.

- Only the supply of information which is necessary for a sensible review.
- The right to compensation of land and development rights.

Certain land and development rights are qualified rights and cannot be viewed as real rights. As eThekweni Municipality explains;

*“They are qualified in the sense that they should not impact on the general good of society.....And they do not understand that, that might be the theoretical capacity be given where this land fits into the ecological landscape we will only allow two units instead of 10”. (Respondent 1, 2003)*

The right of the ecological environment has to be compared to the right of the developer. Are these rights equal and are they carrying the same weight? Clearly not when you look at the trade-offs and the fact that the economics and social aspect are always seen as more important. From a humanist perspective one can also argue that by ensuring that the ecological environment has equal rights to that of the developer the existence of humans is prolonged and it is not just about short-term gains. It is clear that there are very sound and convincing arguments to preserve the ecological environment just based on shallow ecological principles. But it is clear that these arguments have not been strong enough, and stronger arguments related to deep ecological principles are required to bring forth real change in how trade-off's are negotiated.

#### **6.6. The scoping process as a tool:**

The EIA regulations clearly state what the scoping process requires and should consist of. In practice this has been changed, which affected how the legislation was implemented. This affected the effectiveness of the process and the way the process is seen by all parties involved in the development process. It is imperative to understand

how this decision-making tool is implemented and to see how effectively it can be used to implement the ecological principles as part of sustainable development.

### 6.6.1 Success of the tool

The scoping process is seen by developers as beneficial but sometimes an obstacle. The eThekweni Housing Department stated that in their experience the community that will benefit from the development does not understand how vegetation or an open veldt can be considered more important than their need for housing (Respondent 11, 2003).

It was generally felt that the scoping process is a successful and very useful tool. The purpose of the scoping process and shortcomings in the process are now explored.

#### ***Purpose of the scoping process***

To evaluate how successful the scoping process is, it is helpful to determine the general understanding of the purpose of scoping process. It is clearly understood that the scoping process should be a simple and short environmental assessment of the site and the proposed development to flag all the potential impacts. The process should then recommend if these impacts require further investigation and further specialist studies or if it can be adequately mitigated. The WESSA representative explains:

*“To bring to the fore what the environmental issues are. If you look at the definition of what is a scope, it is to probe. It is called an environmental scoping report and I think people forget. So you are doing it to see what the impact on the environment is. That is the purpose of it to scope the magnitude of the problem and on that environment that you are going to develop. So how is it going to adversely impact on the environment and specifically on the natural/biological environment?” (Respondent 7, 2003)*

The scoping process is also the first process to get input from the public with regard to their views and knowledge of the area and whether they are aware of any impacts that the consultants may not be aware of. The DAEA official explains;

*“It’s very important because the scoping process it’s, basically about canvassing different people’s views around any particular development*

*and there have been a number where the views that have been expressed have actually informed the design of a project or the mitigation measures that indicated that it should be somewhere else". (Respondent 4, 2003)*

The scoping process has to determine whether the proposed development will require a full environmental impact assessment (EIA). But it seemed that due to various factors the process has been implemented differently in practice. The scoping process should also identify alternative uses or development options for that specific site. The Deputy Head: Environmental Management from eThekweni Municipality explained it as follows:

*"In theory, the idea of the scoping report is to get enough information about the key issues to make the initial call on the development, you know is it a goer, isn't it a goer, are there any fatal flaws. And to help us assess what level of detail will be required in terms of actually assessing the development. In this province though what has happened is that the scoping process in actual fact became the EIA process. I know that Sarah is trying to sort that process out whereby the scoping process is the listing of issues and giving enough information on the table to inform you whether at that stage you can actually go ahead with the development or whether you need a full EIA. I think in practice the water has become very muddy, with the practice of the scoping report being seen as an EIA". (Respondent 1, 2003)*

This creates confusion in the implementation of the environmental legislation and not just with the developers and the consultants but also with the department that has to implement the legislation. This uncertainty leads to the following problems:

*For the developer:*

- There is uncertainty as to how long the process will take.
- There is uncertainty as to what the consultant is appointed for, to perform a scoping process or to compile an EIA

*For the consultant:*

- To determine the scale and scope of the scoping process,
- When will a specialist study be required, with the scoping process or is this now actually an EIA?

*For the approval authority:*

- What advice should be given when and when should they ask for specialist reports?
- What terminology should be used, what defines a scoping report and what defines a scoping report and an EIA?

*From the public's perception:*

- Questions whether a full EIA was done or not?
- Creates confusion and mistrust in the administrative processes.

The eThekweni Municipality official advised that the reason for this is:

*“One of the key driving forces were the timelines and actually getting responses from the provincial authorities, so if you have a two-phase process, one of which is a scoping where in all likelihood you will move on to a more detailed analysis, you have to have your plan of study for the scoping, your scoping, your plan of study for the EIA and so forth. So you have two bites of the cherry and given the time-lines that were associated by this, people were quite put off by it. I also think in terms of what the understanding of what a scoping was, many of the stakeholders did not understand what the scoping was and were agitated upfront to get enough information onboard to take a decision. So you have the applicant and their consultants trying to get as much information onboard upfront so that there will be no further questions. But I think the idea behind the scoping is just to establish that there are questions, but you do not have to answer them. So I think there was a problem in terms of stakeholder and other officials that they did not really understand what it was all about, so you tended to get these expanded scoping reports”.*  
(Respondent 1, 2003)

DAEA feels strongly that the main thing is that the scoping process should clearly indicate to them whether they should approve and issue a Record of Decision or whether they will need any further studies. It is also seen that the scoping process is site-specific and therefore has very clear boundaries as to what it will investigate. This can create ecological problems. These problems with the process need to be clearly understood.

### ***Shortcomings in the process***

To measure the strength of the current scoping tool it is required that the opinion of the environmental decision makers on the tool should be assessed. The short-comings in the scoping process were explained by the respondents as follows:

- The magnitude of scoping processes. Establishing a clear difference between a scoping report and a full EIA.
- Due to the unclear line between scoping reports and EIA the public is unsure as to whether there was enough information for the provincial authorities to make an informed decision.
- The targeting of the right group of interested and effected parties does not always take place. Therefore in certain cases there is unnecessary public participation and on other occasions there is not sufficient public participation.
- The plan of scoping is not compulsory.
- Too few scoping reports are followed by a full EIA
- The process is completed on a superficial level, through desk-top studies and with not enough depth.
- Applications are approved too easily and it making a mockery of the process. Developers know the application will be approved and it is just seen as a formality and not an exercise that will add value to the development process.
- The public has 30 days to respond to these issues but other state departments have no time limit for responding. Processes can be held up for months just because some department is not legally obliged to provide their comments within a certain time-line. Due to the lack of specific time-lines it is perceived that political issues can result in certain departments deliberately postponing a development from proceeding.

- Overall the approval times are too long and delay development from taking place.
- The EMP should be a dynamic document which can be changed as the development proceeds.
- It does not look at the cumulative or strategic impacts.
- Consultants are sometimes not well trained and are not that familiar with their sites and possible impacts.
- Consultants steer the scoping process in a direction that favours the developer.
- There is insufficient support for smaller, incapacitated municipalities from the provincial departments (DAEA).
- The exemption process is unclear; documents should be simple and straightforward.
- Misplaced priorities by DAEA. Too much research is going into small issues and not enough too the bigger ones.
- The listed activities are causing confusion with regard to what actually requires a scoping or EIA.
- The scoping process in conjunction with the planning/development process requires too much public participation. The public are becoming fatigued and they are not providing meaningful input at the stages when it will be beneficial to the development project.
- The approval rate of applications and the low number of applications turned down raise questions regarding the competencies of the decisions-makers.
- Sometimes the public participation process is badly managed and people force their own agenda into the process, skewing the process and taking attention away from the important matters.

Although all the abovementioned problems were raised it was clear that all the interviewees thought that the scoping process, if used correctly, is still a very useful environmental decision-making tool.

### **Addressing of alternatives**

The aspect of alternatives and the investigation as to whether there are appropriate alternatives for a development proposal is a very important part of the scoping process. The investigation of alternatives allows for finding the optimal development solution for a site. Alternatives to development may include alternative uses, alternative layouts, alternative sites and may also include the no-development option.

In both the Sipumulele and the Koelwaters developments the investigations into alternatives were very weak. This part of the scoping process is usually the part that is influenced by the consultant in the sense that he/she may tend to please their employer or rather the developer. Rarely will any other viable alternatives be mentioned or investigated and almost never suggested. This is a real test for the independence of the consultant.

DAEA, as the final decision-making authority in the scoping process, explains how they look at alternatives:

*“...there are a number of instances where locational alternatives are not feasible there others where technological alternatives are not feasible. So that’s how we try look at it and in terms of what the activity is and where it is. We try to look at it on a case by case basis as to what the merits are”.*  
*(Respondent 4, 2003)*

It generally came across that they do not focus on the assessment of alternatives. That can explain why many consultants only brush over the aspect of alternatives in their scoping reports. They also explained why in certain developments such as low cost housing, it is very difficult and in many cases unrealistic to even look at alternatives.

*“Low cost housing particularly is a difficult one to look for alternatives especially when you looking to resettle people within the area they already live in. You are often constrained by what land is available, the cost of that land um because remember as low cost housing you working*

*with the department of housing subsidies and that's, that's got to provide both your road infrastructure plus your platform, um it may stretch to a top structure in that it's also got to provide the services in terms of water and sanitation". (Respondent 4, 2003)*

The no-development option was mentioned and it is seen as an aspect that is politically controversial. The eThekweni Municipality's Environmental Unit official, with significant capacity and political support in comparison with other municipalities advised as follows;

*"We know that if we go forward with the no-development option, we're going to meet a political war. Um and so we're very cautious about (.) the no development option and (championing) it, unless we believe it's, um you know the only real option on the table and unfortunately that's an option that's usually generated by strategic thinking or thinking of accumulative impacts of a development which is not site specific and of course those are very rarely brought in. It's usually an option, which might be mentioned but is not considered in". (Respondent 1, 2003)*

It should be acknowledged that the provision of alternatives can be very difficult. This is because land is a scarce resource and to find the appropriate piece of land for a specific development can be challenging. Realistically it will mean that there is not necessarily more appropriate land for the same kind of development close by. The KZN Wildlife representative explains how alternatives are addressed even when they develop land.

*"Not genuine alternatives, no. It's a tendency of a lot of people. Even our own guys in this organisation when they're writing a, a development plan, they offer alternatives that are impossible. So, you actually have to look at real alternatives and I think in many cases with the developer, especially guys putting his private money up and things like that, he's got a very clear idea of what he wants and that's what he wants". (Respondent 5, 2003)*

The only other real alternative option for the Sipumulele development was keeping it as an indigenous open space. But this alternative was outweighed by the pressure for the provision of housing.

*“You know in, in terms of the way we planned the open space system that should have remained, natural land, and natural in the sense, indigenous catchment vegetation, there was very little you could do, with that. Um, you know, I mean one might sort of think sort of boldly and say well you could have turned it into some kind of indigenous park for the surrounding communities. Unrealistic um, probably wouldn't have even be utilised but that, it should of in fact remained open and so for us there wasn't really a, another development alternative, any development would have to have been challenged”. (Respondent 1, 2003)*

The Koelwaters development was in a far more potentially flexible situation and the possibilities for other kinds of developments were numerous and not well investigated.

The alternatives were as follows:

- There could have been a combination of a caravan park and a chalet development.
- The layout of the development could have been improved on matters such as scale of development, and only building units behind the hotel.
- Building material could have been far more ecologically-friendly.
- There could have been a development that provided better access for the public to the site and made the beauty of the estuary available to more people. Now it is less accessible to the general public.
- There are alternative sites in that area that could have supported a development such as this.
- The no-development option and keeping the site as a caravan park while looking at other ways to improve revenue, should have been investigated. The new development has a far more intrusive impact than a caravan park that has only a seasonal impact.

It is clear the investigation of alternatives was not adequately done. This means that a real opportunity for the most appropriate and ecologically-sound development for the land was lost and that affects the sustainability of these developments. This then leads us to the question of what the desired changes to the scoping process are.

### ***Desired changes to the process***

There has been a number of ways the role-players stated the process can be improved:

- That the competent authority can actually approve reports in timelines that are meaningful to developers. Thus improving their capacity is essential.
- In terms of the way that scoping reports are reviewed, there is a strong need for people who review EIAs to be professionally registered. There are a number of fly by night consultants and also a number of fly by night reviewers.
- We need stakeholder groups who are more capable of interacting with the scoping process, who understand the scoping process and that there are other processes that can follow.
- Change the plan of study for scoping from being discretionary to mandatory.
- Refine the list of what requires environmental authorisation and what doesn't.
- There should be more levels of scoping dependent on the development proposal.
- The public's comments should be taken more seriously.
- Some scoping and EIA reports should include or be linked to strategic environmental assessments.
- There should be stricter time limits for the authorities to respond to and approve the scoping reports.
- The scoping process should address alternative and more ecologically-friendly forms of building practices and ecological design.
- No developer should be able to appoint his own consultant. Each province should have a board consisting of engineers, geologists and ecologists. All other environmental consultants must register with their board and the panel will decide who should be appointed as the consultant. This must be paid for by the province/municipality who would later recuperate costs from the developer.
- The environmental management plan should be enforced and monitored.

These changes would improve the scoping process and the facilitation of sustainable development. But even with all these shortcomings and desired improvements, could the scoping process address ecological justice?

### **6.6.2 Addressing ecological justice**

Lack of human input or lack of political will or just a shortcoming in the nature of the scoping process itself restricts the process from adequately addressing the ecological justice principles.

One of the main inhibitors of the scoping tool preventing it from addressing ecological justice is the fact that the tool is very project- and site-specific.

*“Your EIA process is very project-specific. And that is fine up to a point and should you talk about ecological criteria for the scoping process, the law does not make adequately room for the fact that site impacts may not be particularly negative, but if you look strategically, like precedents in planning or possible off-site consequences or cumulative impacts, like the development being a further add on to already existing developments in that landscape, it does make really make room for those cumulative strategic analyses. The EIA or scoping report tends to focus on the site and the development. There is actually very little manoeuvrability in reality although the law tries to be a bit more magnanimous about cumulative impacts. But how the EIA process has played out is that it is very site-specific and the scoping report will only look at impacts on the site. Cumulative impact are difficult to measure and the scoping report does not really allow you to investigate this.” (Respondent 1, 2003)*

When it was asked whether the scoping process has the potential to actually address issues such as cumulative impact, the response was:

*"I think potentially the scoping process could address this, but the problem is where do you draw the limit, the issue is not the development but the impact of that pattern of development on the broader landscape. The development of the broader landscape then depends on the viability of the open space system for which it is a key element. So in order to assess this you have to look city wide and how do you do EIA's when you look so broad that you in fact embrace the city. That is the problem where do you cut that argument off? And that is why there has been a tendency to move away from that kind of fuzzier argument and to try and be more project-specific. I think you will be going into muddy waters, particularly as I have said before I have great doubts about the consultant capacity and the reviewer capacity and you are asking really complex questions like that. And in the case of another development we are pulling in various specialists and there are very different views, so who is right the one says a buffer of 200m is ok the other is saying 20m is fine and they are all specialists in their field. That is the problem so you have to engage in it but how you do it I don't know". (Respondent 1, 2003)*

It is clear that having to consider the aspects of cumulative impacts makes the scoping process even more challenging in an environment that is still questioned and debated. It was felt that there was nothing specific in the scoping process that ensured ecological sustainability. The role players in the process will determine how broadly ecological principles will be addressed. This is very subjective and depends on each individual and their understanding of ecological principles. As was indicated earlier there is generally a weak understanding of ecological principles making it very difficult for these decision-makers to implement the principles in their daily work. The WESSA representative stated that;

*"Ecology will always take the hind seat, always, always. So what principles do you fight to put into place. If you say you have x amount of this habitat in place like coastal dune forest, do you say that no, you*

*cannot develop because it is critically endangered. But you never find that. They always just mitigate". (Respondent 7, 2003)*

These gaps in understanding ecological principles can be addressed through awareness and education. As the DAEA official comments;

*"To be able to have again workshops with consultants to say look, these are important ecological principles and bio-diversity issues which you need to be taking into account in your reports. So in terms of the extent to which it's addressed at the moment, I think there are certain weaknesses, there some consultants which have got a much stronger, natural environment background they're others which obviously are lacking they come from a town planning background or a pure environmental management". (Respondent 4, 2003)*

Although DAEA felt that further training was required, other respondents felt that we have the ecological knowledge but that we are not using, implementing and valuing it. Training will definitely assist in making people aware of asking the right questions- even if they themselves do not have the full background with regard to ecology, by asking the right questions it will allow them to import the right expertise. If the process is not addressing the ecological principals adequately, can it facilitate sustainable developments?

### **6.6.3 Addressing sustainability**

Could it be stated that these case-study developments were sustainable? Firstly it is helpful to analyse what the decision-makers thought about the development process and if in their opinion these two developments can be seen as sustainable.

One of the respondents made the point that developers in emerging countries often exploit natural resources and aesthetic beauty on the pretext of creating jobs. These developments are often built with insensitivity toward the natural environments and

ecological laws. After some time when these developments are damaged by the movement of dunes or floods, and they become unsightly and destroy the scenic value of the areas, tourists just move away and the indigenous people are forced to live with the damage, without the resources to restore or rehabilitate the damage (*Respondent 7, 2003*).

### **Koelwaters**

There was a strong sense, especially from the ecologically-strong decision-makers that the Koelwaters development was not sustainable. The KZN Wildlife official stated as follows:

*"I'll answer that question when the first flood comes. I just think we've got to get up and walk away from it. It's a real defeated attitude but I think our energies are best spent elsewhere because to try and get to a sustainable objective right now at this stage of the game, is pointless".*  
(*Respondent 5, 2003*)

The town planning consultant that assisted the Hibiscus Municipality with their comments in Koelwaters application explained why it is so difficult to measure sustainability, but at the same time advised that he was also not of the opinion that this development was sustainable.

*"Is carrying capacity actually measurable? The concept of achieving sustainability in practice is very difficult because the term is so abstract. Taking into consideration the scale building and positioning of the development, my gut feel says that it will impact negatively on the environment".* (*Respondent 12, 2003*)

The WESSA representative was very clear that they felt sustainability was not achieved with the Koelwaters development. One of the other representatives from WESSA also stated that:

*“Sustainability; yes and no. Economic sustainability for Mr Redden. The City of Port Edward unable to sustain their sewage works, from society, there was no massive social need. Ecologically once again to what extent do you mitigate? But I do not think that there was any massive ecological impact, except for the cutting into the hill. The problem with people come in and the developer and his ethos. So the wild card is the people.”*  
(Respondent 10, 2003)

The developer stated that he would have preferred that the area was never developed but due to economics he was forced to proceed. He felt that his development was definitely a sustainable development.

### **Sipumulele**

The fact that there was such a desperate need for housing in the area raised critical questions about the sustainability of the Sipumulele development. As the DAEA official explains:

*“Low cost housing is always a difficult question because it’s usually winding up on marginal land because that’s the last bit of land available for use. That said, if one looks at the property and one looks at the are of that property which development was allowed to take place on it was probably the limits of the developable property within there”. (Respondent 4, 2003)*

DAEA felt that sustainability was achieved with the Sipumulele project. The eThekwin Municipality official agreed and stated that:

*“Social sustainability was achieved, economic sustainability, I am not so sure, it is fairly remote, and any services should have been very expensive. Ecologically, we have gone past the point of reaching sustainability in the city, we are only mitigating at this stage”. (Respondent 10, 2003)*

The eThekweni Housing Department felt that it was a very good development and also a sustainable development. They felt that they did everything they could to ensure that the development was ecologically sound and they also provided much needed housing. They also felt that the area is now better protected and that by developing it they prevented the informal and ecologically destructive invasion thereof.

On the one hand it can be argued that at least the authorities did consider the ecological environment even if it was to a lesser degree. However, this does not mean achievement of sustainable development. If the principles of ecological justice are not applied in the decision-making process and we are not achieving sustainable development, why even go through the scoping process? What value is the process adding to the development process, and is it informing the process?

#### **6.6.4 Informing the development process**

Environmental tools and information should be used to inform the planning process to ensure that sustainable development is achieved. The respondents perceived that the environmental process often did not inform the development and planning process. On the one hand where inappropriate planning was proposed, the environmental reports were not implemented and did not provide sufficient guidance with regard to correcting the bad planning. On the other hand, where the environmental assessment and decision-making was weak, the planning authorities were also too weak to say that they did not agree with the environmental assessments. The comments from the WESSA representative on the development process were as follows:

*“The DFA is a powerful court and they admitted and questioned whether Koelwaters should not have gone the full EIA route. But they never used their power to say that a full EIA should be done”. (Respondent 7, 2003)*

There is also a problem in the system if the development process does actually mitigate impacts better than the EIA process. It has been the case that the DFA actually do mitigate impacts better than the requirements set by DAEA through the EIA. In both the case-study developments it was felt that the environmental process only informed the

planning process to a limited degree. This is because the scoping processes itself only partially addressed the ecological justice principles. Had these principles been fully addressed, the influence of the scoping process could have been far more significant than it was. It is unfair to state that the scoping processes did not have any impact on the development applications. The scale of both the developments was reduced and some guidelines as to the protection of the ecological environment were provided, although this was not thorough enough to be able to be ecologically just.

It must be remembered that the scoping process is the main tool that is being used in environmental decision-making but it is not the only tool. If other environmental plans and databases are not up to date or correct the potential for the development to be sustainable will also be impacted. Such plans and databases will include SEAs, the DMOSS plan and the database for red data species. Some developers are starting to value the environmental process and do make use of it to inform their development plans. Unfortunately too many of them still feel that it is just an obstacle to the development process that does not add any value.

## **6.7 Conclusion**

The general understanding of sustainability varied. Most of the decision-makers had a fair idea although a number of them felt that as there is no clear definition for it, the concept still remains vague. The key decision-makers such as DAEA and eThekwini Municipality had the strongest grasp of what sustainability means. They made strong links between sustainability and the theory of intersecting circles, finding the balance between the various environments.

The most significant contribution to the theory of sustainability was that each site must be looked at in its specific context and that should determine the priority of the balancing of the environments. It should be reiterated that this does not imply that the underlying principle to the achievement of sustainability should not be the ecological justice principles. Please note that by looking at a sites context it implies that you do not look at just the site, but that you view it as part of the greater eco-system.

All respondents highlighted the fact that institutional impacts have a significant influence in the facilitation of sustainable development. Weakness in implementing result from the lack of institutional capacity, restrictive communication between different departments and an overall lack of decision makers willing to take responsibility.

The understanding of the concept “ecological justice” was unfortunately weak, especially among the consultants. The consultants are the environmentalists that are directly in contact with the developers. The implication is that if they are weak with regard to their understanding of ecological justice they will have limited input in the development field regarding ecological principles. This will also be the main cause for weaknesses in scoping reports on the assessment of ecological principles.

The decision makers that were the strongest on the understanding of ecological justice were also the ones that had the highest qualifications in the field. One of the strongest concepts that came though was that the environment has “*locus standi*” and intrinsic value. This is significant and will challenge even the constitution.

The ecological justice principles were almost never addressed in a direct manner and only through analysis was their impact derived. The two most evident principles were the ideas that humans should have minimal intervention/disturbance into nature and its processes, and that there are limits to growth. Despite being the best understood principles they were not adequately addressed.

There was a general feeling that government is responsible, and in particular KZN Wildlife, for the development of ecological advocacy. This is not an ideal situation as KZN Wildlife has limited interaction with the developers and their influence is restricted due to relationships that can have a tendency to be hostile as they are perceived in some circles to be against all development. It is therefore critical that this role should start with the consultants and then supported by all the government decision-makers.

The two major trade-offs were for profit and social upliftment. Our constitution supports the trade-off towards social upliftment, but it cannot always implement this, and decisions should be made in context. Where will this degradation of the environment

out weigh the positive gains for social upliftment, because there is definitely a cut off point where environmental degrading will impact on social upliftment. The problem is that the cut-off point is in such a grey area that it is difficult to substantiate arguments until it may be too late. When can profit be seen as unreasonable level of profit in the context of sustainable development?

## CHAPTER 7

### CONCLUSION

As concluded from the theoretical research it should be clearly stated again that:

**Without the due consideration of ecological justice in the environmental decision-making process it is not possible to achieve sustainable developments.**

The aim of the research was:

**To explain whether ecological justice concerns are being integrated into environmental decision-making.**

The objectives of the research were met by a review and interpretation of the concept of ecological justice in Chapter Two. Through the analysis the extent to which ecological justice principles were integrated into environmental decision-making in two housing projects was determined. The analysis also explained whether low income and high income housing projects are assessed differently in relation to ecological justice principles. Finally the success of the scoping process in addressing principles of ecological justice was assessed.

The basic definition of Ecological justice is to be just and fair towards the integrity of the relationship between organisms and their environment. The ecological justice principles that were derived from the literature study, in Chapter Two, were as follows.

- 1) The question should always be asked; do we need this development or project?
- 2) Nature has intrinsic value.
- 3) Humans should have minimal intervention/disturbance into nature and its processes.
- 4) Ecological integrity should be maintained.
- 5) There are definite limits to growth due to scarcity of resources.
- 6) Inter-generational equity should be achieved.
- 7) Equal consideration of the ecological environment and its integrity.

- 8) The precautionary principle should be upheld.
- 9) An ecological sense of place should be kept or restored. These will include aspects of rehabilitation, alternative forms of energy, alternative forms of building material, building design and site design.

From the research it was evident that the ecological principles were marginally or, in most cases, not at all followed. It can therefore clearly be concluded that in the development of the two case-study housing projects, ecological justice was not achieved. Because ecological justice was not achieved it can also be concluded that sustainable development was not achieved. As we are not achieving sustainability because of the neglect of ecological justice, how far are we from achieving sustainable developments and what can be done to achieve this? Because there has been progress towards this, and it is viewed that with adjustment to decision-making and legislation, significant progress can be made toward achieving more sustainable developments. To measure progress on sustainability it is useful to recap on the four areas of sustainable development namely, economic, social, ecological and institutional as depicted in Figure 7.1 below

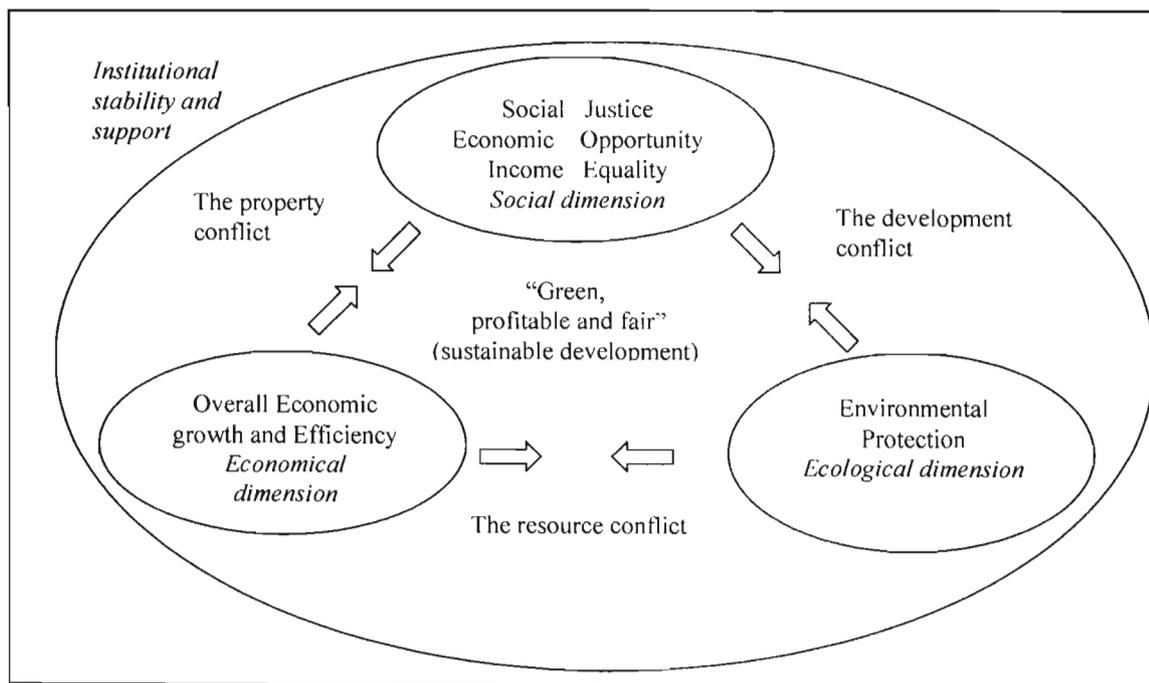


Figure 7.1 Combination of figures 2.3 and 2.1, depicting the four legs of sustainable development and the triangle of conflicting goals for planning and the three associated conflicts to work towards sustainable development.

Figure 7.1 is now a combination of showing the conflicting interests that governs the concept of sustainability with the added aspect of the governmental institution that has to facilitate the implementation thereof. This illustrates the challenge that the institutions face implementing the concept of sustainability. There is conflict of interest clashes between the ecological, social and economic environments. From the analysis of results it is clear that all the environment's assessments were weak.

Some levels of **economic sustainability** were addressed in both the developments, even if there was not an in-depth economic analysis that formed part of the environmental assessment. Economics were perceived to have been taken into consideration even if by very basic measures. In the case of Koelwaters it was addressed by making profit and in the case of Sipumulele by staying within reasonable budget. Economic assessments that were not evaluated during the scoping process were aspects such as:

- To determine whether the level of profitability was within reasonable boundaries and not at levels of unreasonable greed.
- It was weakly stated that the development would boost economic growth, by providing jobs – but no assessment was made as to how many permanent jobs would have been created by the developments and how this measured against the ecological loss caused by the developments.
- The definition of economic development should be widened to look at long-term economic stimulation in comparison with the current activities on the site and their economic contribution. Thus by changing the land-use would there be a real increase in economic development?
- In the case of Sipumulele, they stayed within the development budget - but the sustainability of this economic justification should be questioned. Low cost housing has been implemented and as such these are often of very poor quality. Thus these developments can deteriorate very quickly, leading to short-term provision of numbers of low quality houses. With lack of value for money one cannot view the development as economically sustainable. Low cost housing

should not mean low cost development and low cost building, but should rather be viewed as good quality housing for the low income population.

**Social environment** sustainability was viewed to be achieved in the case of Sipumulele because housing was provided to the homeless. However, other social aspects such as equity, social integration, access to services, participation, support to the marginalised such as the elderly, women, children and the disabled were ignored. This was also not investigated in-depth as part of the environmental assessment. This was housing provided on the periphery of the city far from any social services and economic development opportunities. Thus the social justification was incomplete. Developing socially-enabling environments that provide in basic needs, build skills and increase access to social support systems and sustainable livelihoods has to be built into the scoping process.

Another social aspect that is being neglected by the scoping process is the aspect of choice. Currently the housing process is providing single residential tenure very effectively but other forms of housing are being ignored. This does not address the different forms of families in society and their particular needs.

From interviewees' comments, various weaknesses are evident on an institutional level where it is clear that there are some serious gaps. Without a strong institutional support system it will be virtually impossible to implement sustainability. It is clear that the most influential decision-making authority, DAEA has a very weak interpretation of "ecological justice". The process is as strong as its weakest link and in this case it is the last link/final decision which is the weakest. This decision should be enabled by stronger information and advice, although this alone does not guarantee a good decision. Other institutional aspects that have to be addressed are as follows:

- The implementation of legislation on environmental management is ecologically weak.
- There is a lack of skills in the various departments to look at all aspects of sustainability.

- There is a shortage of capacity both in the number of people assessing the environmental reports, and in those that enforce the legislation.
- The process has gaps and is slow, leading to frustration from the developers' side and making them question the value of environmental management as the delays lead to serious financial implications for them.
- There is a weak acceptance of responsibility of ecological justice by most parties whether on an institutional level or on development proposal level. The collective consciousness of all role players should become more aware of the environment and the value it has in sustainability.

At the moment the DAEA are stating that it is their role to ensure that developments should be sustainable, but from the abovementioned shortages in the scoping process it is clear that their assessments are generally shallow and cannot be seen as in-depth sustainable assessments. The assessment on developments is too weak to accept that they are able to make informed trade-offs that can lead to sustainability.

In spite of these weaknesses, some acknowledgement must be given to what has been achieved up to date. We can see how far we have moved on the path to sustainability by developing a model that illustrates how institutional development and the levels of responsibility that have been taken by all the relevant role players interact and moves decision makers towards more sustainable decisions. Figure 7.2 provides an illustration of this model. It is assumed that the pathway of sustainability starts at a point of no sustainability and builds to higher levels of sustainability. These levels are infinite and it will serve no purpose to quantify or give them more meaning for the purpose of this model. The underlying principle is that with each level we move to a higher level of sustainability. By using the aspects of better institutional development and the increase in accepting responsibility in the field of environmental management a country will move to higher levels of sustainable development. The development of the institution is depicted in the left side of the model and starts at the bottom with a constitution that protects environmental rights. Followed by this is a policy that supports these rights. Policy is followed with the approval of legislation that will implement the policy. This leads to the acceptance by a department to implement the legislation or

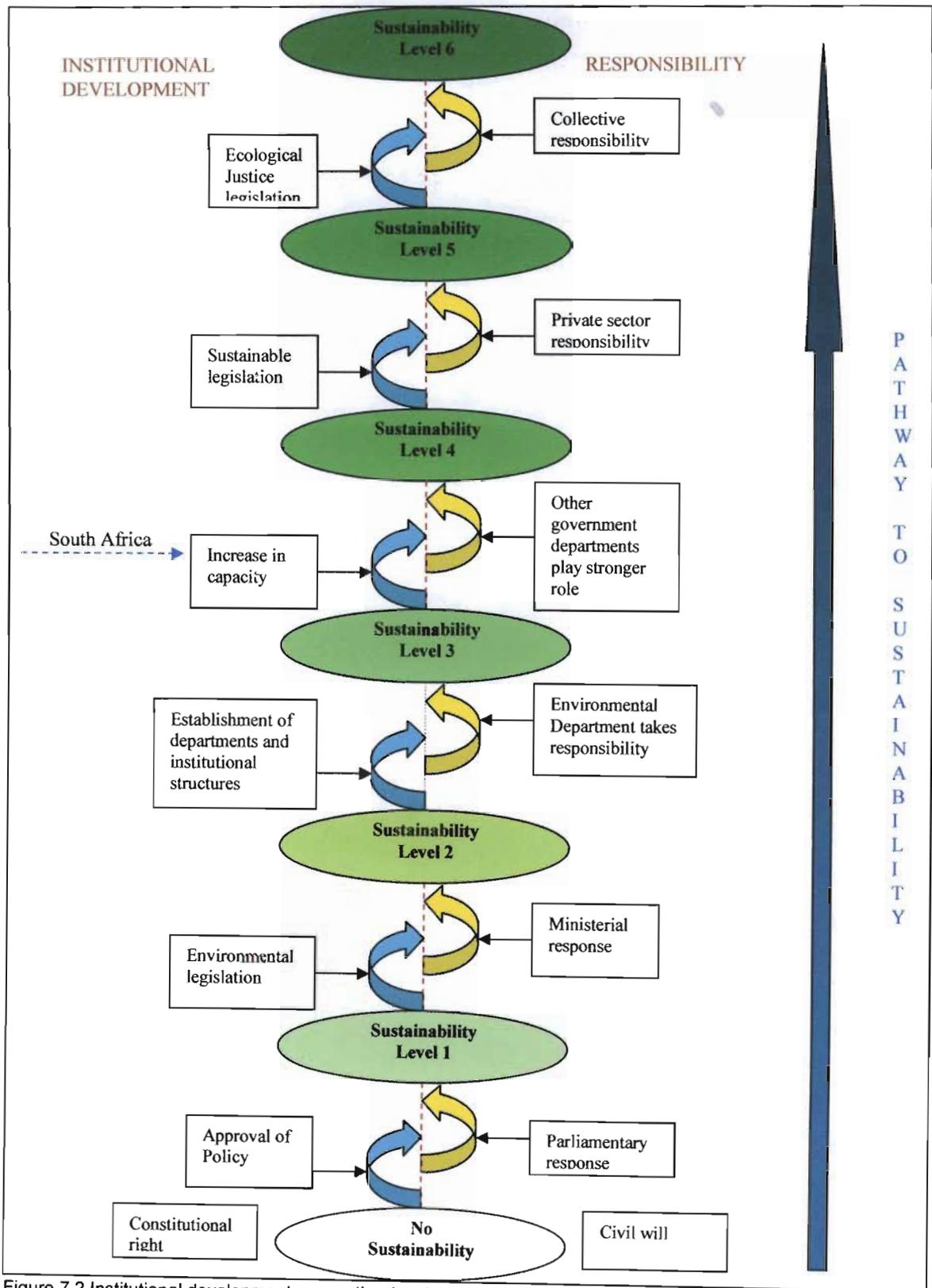


Figure 7.2 Institutional development versus the development of responsibility: The way to sustainability

even the establishment of a department to do the implementation. The next institutional step includes increasing the capacity of the department and the building/ strengthening of relationships between this department and other role players in the sector. This leads to the review of legislation being more ecologically just, and then to legislation that truly addresses sustainable development.

On the right side of the model the levels of responsibility of all the role players in the field is depicted. There is an increasing growth starting at the bottom of the figure with a general civil will to protect the environment growing ultimately to a society that values the ecological environment and practices the principles of ecological justice.

South Africa as has made significant progress towards environmental management and sustainable development. It is clear that the country is at a point on the institutional capacity building level where environmental departments that has decision-making authority are building capacity. On levels of responsibility South Africa is also at a point that increasingly government departments are accepting their role and responsibility toward implementing sustainability and environmental legislation. Even though the two case studies indicated that sustainability was not achieved it can be said that South Africa is according to the model depicted in figure 7.2 between level three and four on the pathway to sustainability.

It is clear from the research that the impact of legislation is significant and that the legislation does clearly contain the requirement that the principles of ecological justice should be addressed. However, the implementation of these principles is problematic. Because the environmental scoping process is the most important tool and process in assessing new development proposals, it is critical that the tool should look at the ecological principles very clearly. It can therefore be concluded that:

- 1) Ecological principles should be recognised and used as criteria to evaluate developments.
- 2) Decision-makers should have a better understanding of ecological justice and its principles.

- 3) Ecological justice should be the foundation of any sustainability assessment, because the ecological base is the source of all life.

The overarching aspect that has to be acknowledged is that the development process is at the mercy of people and their personal perspectives, backgrounds and education. This effects how legislation will be interpreted and implemented. It will affect how legislation will be complied with by the developers and it will affect institutional co-operation between the different departments that play a role in the process.

It should also be mentioned that the aspects of sustainability should be weighted taking the position and location of the development into consideration. In more ecologically sensitive areas this can include urban areas, the ecology should have a heavier weight etc. However, ecological principles should still be the underlying principles that should be maintained and upheld to ensure that sustainable development is achieved. It is hoped that by some shifts in focus in the scoping process from humanitarian to wards more ecological, that sustainable development is possible. This does not imply the disregard of the humanitarian aspects but acknowledges the significance of the ecological base that is the source of our existence.

Lastly it should be recognised that currently South Africa's economy is improving and poverty levels are decreasing. However, there is still a significant number of people struggling daily with the implications of poverty. This makes social development and poverty alleviation the dominant political priorities. However, it cannot be overlooked that by ignoring the prioritisation of ecological justice, the future of any social development will be jeopardised.

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# Annexure A

## The EIA Process and NEMA Principles

### 3.2 THE APPLICATION AND EIA PROCESS

Figure 1 describes the application procedure to be followed to obtain authorisation to commence with a listed activity.

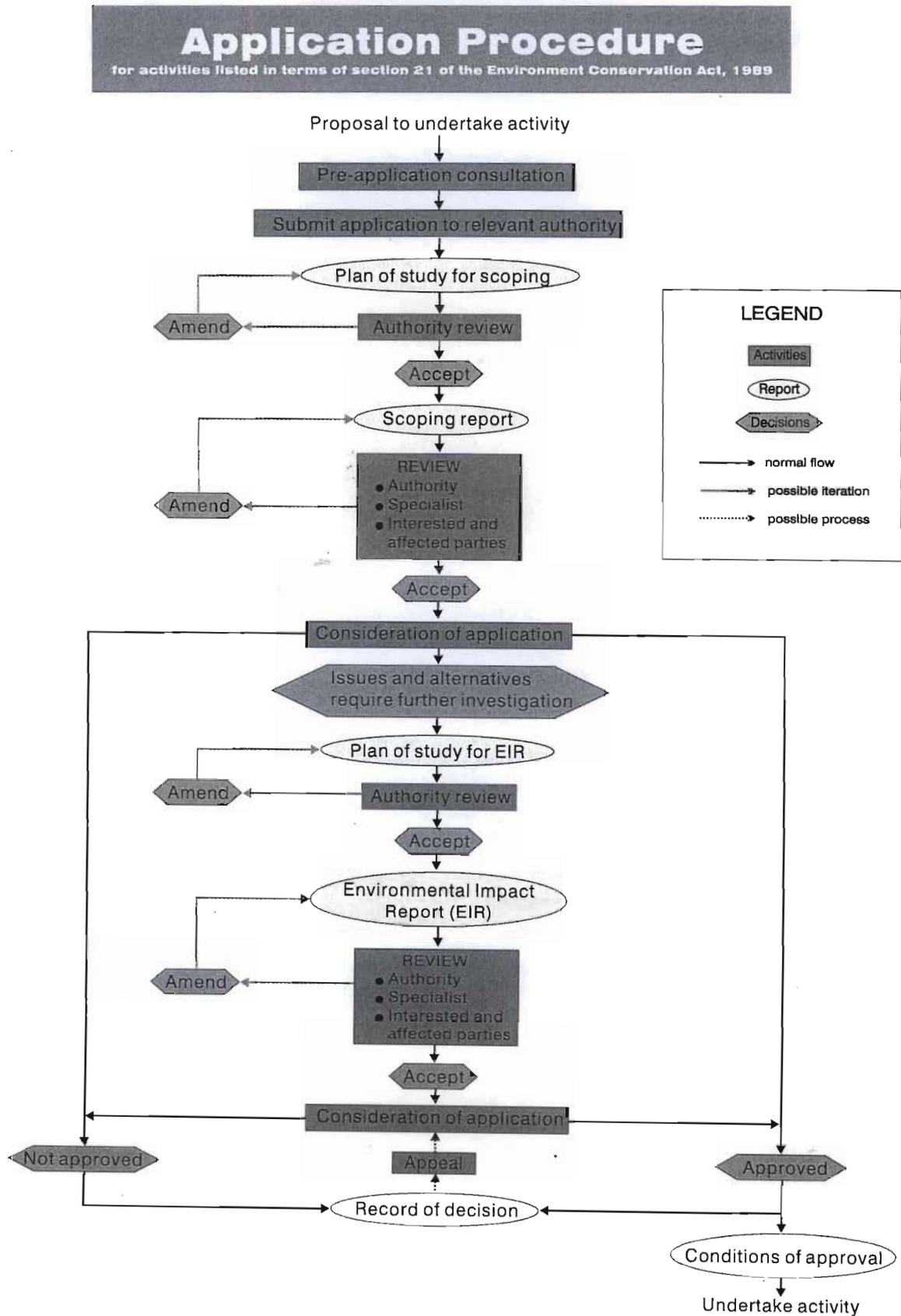


Figure 1: Application Procedure

emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future; (iii) 5

(xxv) "prescribe" means prescribe by regulation in the *Gazette*; (xxx)

(xxvi) "provincial head of department" means the head of the provincial department responsible for environmental affairs; (xxiv)

(xxvii) "regulation" means a regulation made under this Act; (xxv) 10

(xxviii) "state land" means land which vests in the national or a provincial government, and includes land below the high water mark and the Admiralty Reserve, but excludes land belonging to a local authority; (xxvi)

(xxix) "sustainable development" means the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations; (xxviii) 15

(xxx) "this Act" includes the schedules, and regulations and any notice issued under the Act. (xiii)

(2) Words derived from the word or terms defined have corresponding meanings, unless the context indicates otherwise. 20

(3) A reasonable interpretation of a provision which is consistent with the purpose of this Act must be preferred over an alternative interpretation which is not consistent with the purpose of this Act.

(4) Neither—

(a) a reference to a duty to consult specific persons or authorities, nor 25

(b) the absence of any reference in this Act to a duty to consult or give a hearing, exempts the official or authority exercising a power or performing a function from the duty to act fairly.

## CHAPTER 1

### NATIONAL ENVIRONMENTAL MANAGEMENT PRINCIPLES 30

#### Principles

2. (1) The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and—

(a) shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination; 35

(b) serve as the general framework within which environmental management and implementation plans must be formulated; 40

(c) serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;

(d) serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and 45

(e) guide the interpretation, administration and implementation of this Act, and any other law concerned with the protection or management of the environment.

(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably. 50

(3) Development must be socially, environmentally and economically sustainable.

(4) (a) Sustainable development requires the consideration of all relevant factors including the following:

(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; 55

## Act No. 107, 1998 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998

- (ii) that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;
- (iii) that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied; 5
- (iv) that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;
- (v) that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource; 10
- (vi) that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;
- (vii) that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and 15
- (viii) that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied. 20
- (b) Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.
- (c) Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons. 25
- (d) Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination. 30
- (e) Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.
- (f) The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured. 35
- (g) Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge. 40
- (h) Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.
- (i) The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment. 45
- (j) The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.
- (k) Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law. 50
- (l) There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.
- (m) Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures. 55
- (n) Global and international responsibilities relating to the environment must be discharged in the national interest.
- (o) The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage. 60

(p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.

(q) The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted. 5

(r) Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure. 10

## CHAPTER 2

### INSTITUTIONS

#### *Part 1: National Environmental Advisory Forum*

#### **Establishment, objects and functions of National Environmental Advisory Forum**

3. (1) The National Environmental Advisory Forum is hereby established. 15

(2) The object of the Forum is to—

(a) inform the Minister of the views of stakeholders regarding the application of the principles set out in section 2; and

(b) advise the Minister on—

(i) any matter concerning environmental management and governance and specifically the setting and achievement of objectives and priorities for environmental governance; and 20

(ii) appropriate methods of monitoring compliance with the principles set out in section 2.

(3) The Forum may, on its own initiative and after consultation with the Director-General, draw the Minister's attention to any matter concerning environmental management requiring attention, and the Minister may refer matters for consideration by the Forum. 25

#### **Composition**

4. (1) The Forum consists of at least 12 but not more than 15 members appointed by the Minister. 30

(2) The Minister appoints persons who represent stakeholders, and persons who have experience, expertise or skills necessary to enable the Forum to carry out its functions: Provided that the Minister must take into account the desirability of appointing women, youth and persons disadvantaged by unfair discrimination and ensuring representation of vulnerable and disadvantaged persons. 35

(3) Before persons contemplated in subsection (2) are appointed, the Minister must—

(a) invite nominations from organised labour, organised business, non-governmental organisations and community-based organisations in a manner that he or she may consider appropriate, and invite nominations from others by notice in the *Gazette*, at least two nationally distributed newspapers, appropriate local newspapers and on the radio specifying a period within which nominations must be submitted; 40

(b) stipulate in such notice, the procedure to be adopted regarding such nominations; and 45

(c) consult with—

(i) the MECs; and

(ii) the Committees of the National Assembly and the National Council of Provinces that scrutinise environmental affairs. 50

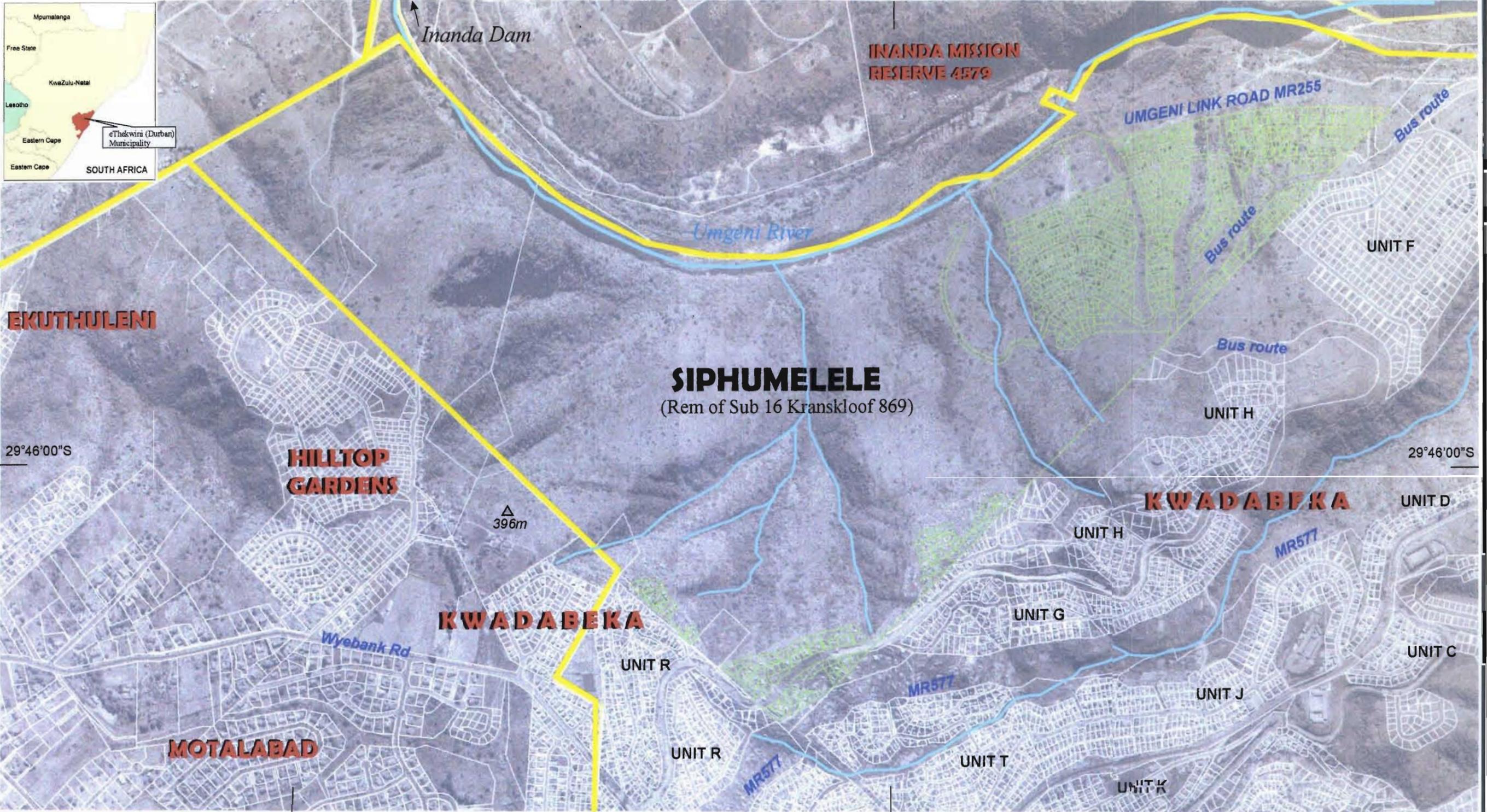
(4) The Minister appoints the chairperson of the Forum.

(5) (a) Each member of the Forum designates, with the concurrence of the Minister

# Annexure B

## Layout Plans





**LEGEND**

-  Siphumelele Cadastral
-  Cadastral
-  Entity Boundary

**SIPHUMELELE**  
 (Inner West Local Council Area)  
 eThekweni (Durban) Municipal Area (EMA)



DATE: 2003/05/26



**DISCLAIMER & GENERAL MAPS & PLANS**  
 The Inner West Operational Entity accepts no liability or responsibility whatsoever for the accuracy of information supplied. In the case of Municipal services, including roads, the information must be used as a guide only. Details should therefore where possible, be physically checked on site.

**CADASTRAL MAPS**  
 The Inner West Operational Entity accepts no liability or responsibility whatsoever for any inaccuracies in the information shown hereon. All cadastre has been captured from approved Surveyor General diagrams and as such certain errors and portions shown may not as yet be registered in the Deeds Office. Any uncertainty regarding the status of registration should be checked/verified at the offices of the Registrar of Deeds and/or the Surveyor General.

# Annexure C

## Questionnaires

## QUESTIONNAIRES

### General Interviews:

#### Scoping Reports:

1. What is according to you the main function of a scoping report?
2. What are the biggest short comings of the current scoping process?
3. If you should change anything in the existing scoping process, what will it be?
4. How do you feel about the value of the scoping process in environmental decision making, is it a useful tool?

#### Ecological Principles:

5. What do you think are the key ecological principles that should be upheld in the scoping process?
6. Does the scoping process currently address these ecological principles?
7. Do you think these principles are appropriate in a developing country context; please explain?
8. What is your definition/opinion of ecological justice? Why is it important?
9. Who do you think has the primary responsibility for speaking on behalf of the ecological environment. (Who has the advocacy role?)
10. How well developed is this (advocacy role) developed in South Africa at present and in the scoping process?
11. What trade-offs do you think are made between social and ecological justice and how are these ideals negotiated and prioritised?
12. Why do you think are they prioritized this way?
13. What rights do you think the developer has?
14. What rights do you think does the natural environment haS?

#### Other Questions:

15. What is the name of your department or company?
16. What is your position in this department/company?
17. What is your qualification and training?
18. What do you see as your departments primary function?
19. How many (average of the last three years) scoping reports does your department/company assess/compile per year?
20. What is your departments rights when assessing scoping reports?
21. How many scoping reports are proceeded by EIA's
22. If you can change anything about the current scoping process what will it be?

### **Koelwaters Interview:**

1. In your opinion do you think the development was needed/appropriate in this local area?
2. Do you think this development was appropriate for this specific land?

### **Alternatives to the development:**

3. The scoping report only made reference to 3 alternatives
  - 1) The no development option
  - 2) Alternative sites
  - 3) Adjusting the developmentHow do you feel about these alternatives, do you feel that they adequately addressed all the alternatives.
4. Do you think that the rehabilitation of the site was adequate; explain
5. In hindsight do you still consider the no development option as inappropriate given that the developer did not build the originally proposed log cabins that would have blended into the surrounding but instead build Cape Dutch style row housing units?
6. What was your opinion of the visual impact of the caravan park?
7. Do you think the scale of the development was appropriate taking the sensitivity of the site into consideration?
8. Why was the scaling down of the development and more rehabilitation of the site not supported or suggested by your department?
9. Did you consider other more appropriate land uses for this site, that could be more environmentally friendly?

### **Ecology of the site:**

10. Was the site considered an ecologically sensitive site? Do you think the sensitivity of the site should have been prioritized and considered more seriously in the decision making process?
11. What else in your opinion could have been done to protect the natural vegetation and improve it?
12. How do you feel about the development relative to the lagoon?
13. Why was development allowed on both sides of the lagoon?
14. Were you able to determine how the developer acquired ownership of the lagoon? That is against national legislation?

### **Design with Nature**

15. Do you think your department could have played a more constructive role in ensuring that the natural environment was seriously considered in the design and layout? If your input was limited, why was this so?
16. Do you ever suggest alternative forms of building material, provision of services or use of energy for development? If so why not for Koelwaters?

### **Trade Off's**

17. When you prepared and evaluated this scoping report which of the following concepts were the most important for you?
  - a) The ecological environment
  - b) Social needs
  - c) Environmental justice

18. What in your opinion were the key trade-offs for allowing the Koelwaters development to proceed?
19. When assessing a scoping report what of the following constitutional rights carries the most weight?
  - a) Economic rights
  - b) land rights
  - c) social rights
  - d) ecological rights
20. Do you think that private developers have more responsibility to build truly sustainable development than local government?
21. Do you think that there was appropriate mitigation measures provided for this development? Taking into consideration that this is a developing country?
22. Do you think this project should have gone the full EIA route? If so Why?
23. Do you think that sustainability was achieved in this project?

### **Sipumulele Interview:**

1. In your opinion do you think the development was needed/appropriate in this local area?
2. Do you think this development was appropriate for this specific land?

### **Alternatives to the development:**

3. Did you consider the no development option for this development and the rehabilitation of the site? If not why not?
4. Did you consider other more appropriate land uses for this site?
5. Did you consider housing at a reduced scale and density? Do you think the scale of the development was appropriate taking the sensitivity of the land into consideration?

### **Alternative uses of Energy:**

6. Why did you not suggest alternative building materials in the scoping report?
7. Were more appropriate forms of energy and services considered? If so why were this not mentioned in the scoping report?
8. Was there any attempt to design the layout/development taking the natural environment more into consideration?

### **Ecology of the site:**

9. Do you think that DMOSS should be compromised in any way?
10. What else in your opinion could have been done to protect the DMOSS?
11. The presence of red date species in the area was just mentioned in the report. Why was this not a serious consideration for preventing the continuation of the development?
12. How do you feel about the development relative to the river?
13. How do you envision the maintenance and protection of the buffer strips next to the drainage lines

### **Trade Off's**

14. When you prepared and evaluated this scoping report which of the following concepts were the most important for you?
  - a) The ecological environment
  - b) Social needs
  - c) Environmental justice
15. What in your opinion were the key trade-offs for allowing the Sipumulele development to proceed?
16. When assessing a scoping report what of the following constitutional rights carries the most weight?
  - a) Economic rights
  - b) land rights
  - c) social rights
  - d) ecological rights
17. Do you think that there was appropriate mitigation measures provided for this development? Taking into consideration that this is a developing country?
18. Do you think this project should have gone the full EIA route? If so Why?
19. Do you think that sustainability was achieved in this project?