Development Pressures and Management Constraints in the Coastal Zone—the Case of KwaZulu-Natal North Coast

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Introduction

Coastal zones worldwide are becoming attractive locations for economic, tourist and residential development. Chua (1993 cited in Shi *et al.* 2001:2) states that 50% of the world's population inhabits the coastal zone, which represents approximately 10% of the earth's surface. According to Carter (1988), many coastal populations show signs of growth rates that are expanding faster than national populations.

In addition to this permanent (somewhat predictable) population, coasts experience seasonal 'booms' in large transient populations—the tourists (French 1997). The element of unpredictability is highlighted in that tourist development differs from others in terms of intensity and number of people located in an area, at any given period of time, resulting in concentrated impacts (French 1997). The increase in leisure time and demand for facilities, has witnessed significant portions of the world's coasts having become committed to tourist development.

Development trends in coastal zones worldwide indicate that shoreline real estate is in strong demand (Clark 1995). This demand, which responds to essential needs for economic growth, leads to a linear approach to coastal development (Clark 1995). Linear developments impact upon large areas and encroach on a number of terrestrial coastal ecosystems, such

as land along the water's edge, wetlands, land with beach access and, or sites commanding impressive sea views (Treweek *et al.* 1998:149). Accompanying this growth is the heavy demands placed on water, services and natural ecosystems along the coast.

Coastal zones are intensely dynamic areas containing unique and irreplaceable ecosystems which are critically important to humans. According to Isobe (1998), coastal zones provide three functional roles: firstly they provide resources for human utilisation—energy extraction, industrial, residential use and recreation. Secondly, they play crucial roles in disaster prevention, acting as buffers against tsunamis, rough wave action, flooding and erosion. Thirdly, they provide important ecological goods and services-harvestable goods, water cycling, primary production, etc.

Managing pressures on coastal resources in an integrated manner are critically important given the role that these ecosystems play and to ensure that the human relationship with coastal zones remain harmonious. Environmental deterioration threatens the foundation upon which tourism and residential development rests. Unless initiatives are taken soon to manage this growth, and related development activities, environmental deterioration of coastal resources will eventually undermine productivity and intensify conflicts over the scarce and unique resources in the coastal zone (Hatziolos 1996:4).

KwaZulu-Natal (South Africa) has recently emerged as the focal point of industrial development in sub-Saharan Africa, attributed to the availability of its unequalled natural resources, sound infrastructure and hub of port activities. Concurrently, the development of tourist, commercial, industrial and residential expansion along the northern areas of KwaZulu–Natal has generally been concentrated in the coastal zone.

Simultaneously, there exist vast disparities in levels of development and underdevelopment between the coastal zone and its immediate hinterland. Local municipalities are faced with the daunting task of forging sustainable links between the two. Urbanisation of the coastal zone is likely to increase in the future due to rapid population growth, employment opportunities and to unconstrained development activities. Furthermore, in addition to local development pressures, coastal areas as well as pristine wildlife conservation areas are deemed to be the main sources driving tourism in KZN.

Motivation for the Study

This article provides an assessment of this coastal environment in the context of current development pressures and concurrent management constraints. Although environmental concerns are climbing agendas and Integrated Coastal Zone Management (ICZM) is being advocated by the governments worldwide, current management approaches on the KwaZulu-Natal north coast remain sectoral and unsustainable. In addition, improper land use planning and ineffective implementation of policies is contributing to *ad hoc* development which in turn, impacts on the biophysical environment. Moreover, there exists a lack of transparency, accountability and genuine public participation in the development process of this coastline. This paper advocates the implementation of a Strategic Environmental Assessment (SEA) to achieve sustainability in this coastal zone. The *ad hoc* nature of development and the lack of a strategic focus, has been the catalyst for this research. An SEA has not been tested for the area, and this paper aims to establish whether perceptions on current development issues suggest the need for one.

Study Area

The study area is located on the east coast of South Africa (Fig.1a), within the province of KwaZulu-Natal. It is located on the KwaZulu-Natal north coast and covers portions of both the eThekwini and Ilembe municipalities (Fig.1b). It stretches from Umhlanga Rocks in the south to Salt Rock in the north and up to and including the N2 national road in the west (Fig. 1c). The study comprises an area of approximately 5 534.05ha.

Principle physical assets of the area are its favourable climate, topography and geomorphology, which combine to form the foundation of the coast's natural heritage i.e. sandy and rocky shores, coastal forest, wetlands, estuaries and grasslands which support a range of diverse ecosystems for terrestrial and fresh water organisms (DAEA 2004:1865). Until the mid-1990s this coastline was relatively undeveloped with agriculture (commercial sugar cane) being the dominant land use. The coastal strip was scattered with small towns that were generally high income, low-density residential suburbs, which also held a resort component. This strip of land has, in the last two years, become a speculator's paradise,

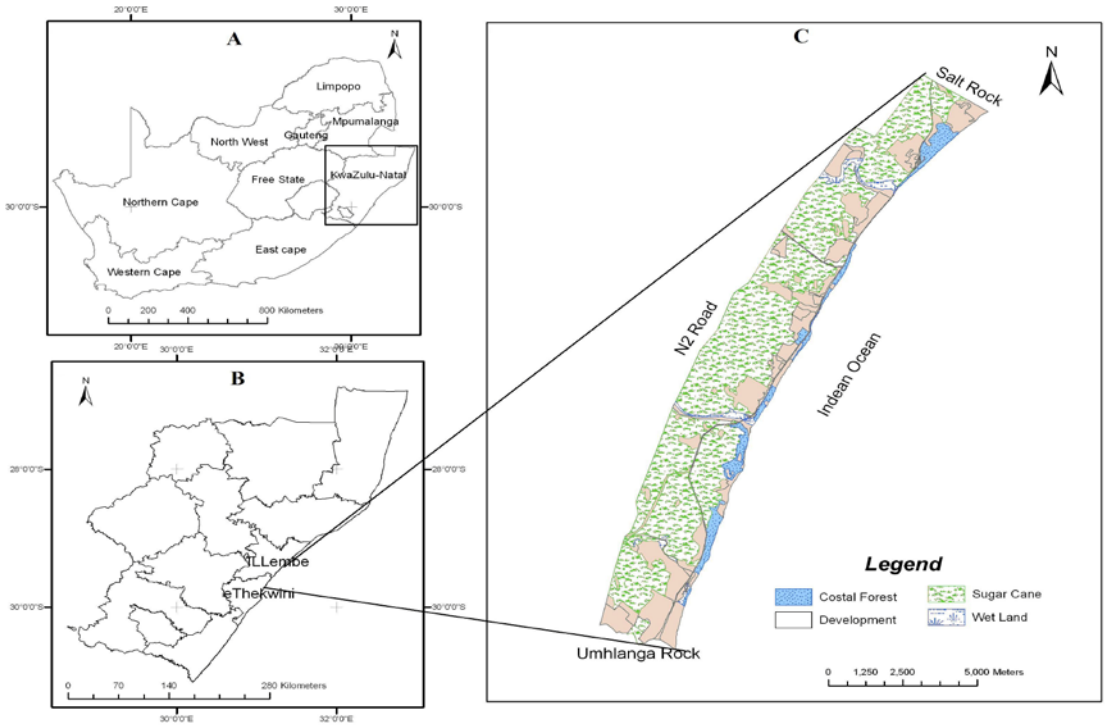

Figure 1. (a) The province of KwaZulu-Natal on the east coast of South Africa; (b) the eThekwini and Ilembe municipalities on the KwaZulu-Natal north coast; (c) the study area from Umhlanga Rocks to Salt Rock and up to the N2 national road.

experiencing unprecedented levels of development (in the up-market residential, commercial and tourist sectors). Property development is a key feature of economic development along this coastline. The Ilembe part of the study area is reputed to have the fastest growing real estate in South Africa (DAEA 2004:1868).

Coastal Management Efforts in South Africa

Environmental management has become a major approach in which we make decisions about the way in which natural resources should be used, allocated and sustained. However, given increasing and often competing demands for natural resources and landscapes management practices often compromise the natural integrity of coastal areas. This is particularly the case in South Africa where social and economic pressures fuelled by transformation and development imperatives have resulted in environmental considerations being undermined. Rather than having resolved the issues surrounding environmental degradation, management responses to development activities in the coastal zone off the KwaZulu-Natal north coast have contributed to them.

In the 1970s and 1980s, a variety of coastal zone management (CZM) activities were executed in South Africa, on a sector specific basis, such as nature conservation, fisheries management, land use planning and so forth. These were inefficient and led to the proliferation of plans and regulations. There was also the lack of integrating environmental issues into economic and development plans. Prior to 1997 (when Environmental Impact Assessment procedures became mandatory in terms of the Environmental Conservation Act of 1989), development applications were assessed on an *ad hoc* basis, and development was controlled through administrative regulations and expert advice (Glavovic 2000). Sowman (1993) concurs by highlighting that the early management of South Africa's coastal resources has been carried out in the absence of any comprehensive, integrated coastal management system, and in a very fragmented manner which reflected centralised, top-down planning.

The shift towards realising the need for Integrated Coastal Zone Management (ICZM) coincided with the broader political transition in South Africa in the early 1990s, when a variety of civil society became actively involved in aspects of public policy, decision-making and management

(Glavovic 2006:892). Glavovic (2006:890) distinguishes four main areas of coastal management over the last three decades: *ad hoc* sector-based management (1970s); coastal zone management and regulations, ecology and experts (1980s); participatory policy formulation (1990s); and people-centred, pro-poor ICM (2000).

Many countries are beginning to implement ICZM strategies to manage their coasts. The distinctive feature of ICZM is that it takes into account the ecological and socioeconomic issues associated with development (Clark 1995). Although major issues in the coastal zone are acknowledged by ICZM strategies, addressing them are extremely problematic (Hatziolos 1996:45). The paper will illustrate the development pressures experienced and constraints faced by managers in the coastal zone under investigation on the KwaZulu–Natal north coast of South Africa. The article will demonstrate that this coastline faces institutional constraints related to the policy environment, administrative and organisational aspects of resource management and limited human and technical capacity to deal effectively with issues which currently undermine sustainable development in the coastal zone.

Current Policy Context of ICZM in South Africa

Legislation pertaining to the coastal zone has become extremely complex due to the introduction of new legislative processes, amendments, the existence of outdated legislation (such as the Town Planning Ordinance of 1949) and ambiguous legislation (such as the Development Facilitation Act of 1995). Many coastal specific legislation such as the National Coastal Zone Management policy and the Provincial Coastal Management policy have not been finalised, and in the absence of a Coastal Management Act (national legislation), development can, at best, be guided but not regulated or managed effectively in a sustainable way (Mather 2005).

South Africa's coastal management is largely guided by the White Paper for Sustainable Coastal Development which is the main policy guiding development at the coast, and has ushered in a new era of thinking on coastal issues. It has set three objectives that coastal development should promote: social equity through improved livelihoods for poor communities, a healthy coastal environment for the benefit of future generations, and economic development that makes best use of available resources (DEAT 2000:4).

The need for environmental assessments and the promotion of sustainable development have both been highlighted through the implementation of Integrated Environmental Management (IEM) and, more recently, in 2006, through the new Environmental Impact Assessment (EIA) regulations passed in terms of Chapter five of the National Environment Management Act of 1998. While EIA has a potential role in sustainable development, its commonest application has hitherto been at the project level, and herein lays its major criticism. It fails to ensure adequate consideration of potentially severe indirect and cumulative environmental effects (Treweek et al. 1998:147). According to Treweek et al. (1998:147), the fact that environmental impacts cannot be identified and predicted effectively if EIA is project-specific, is an important justification for moves towards a Strategic Environmental Assessment (SEA). Furthermore, Haag (2002:12) highlights critical flaws in CZM practices thus far, specifically with regard to integration and holistic planning, and suggests that an alternative to current approaches may be found in adopting SEA of coastal zones.

SEA expands the scope of EIA not only at the project level, but also at higher levels—it assesses and informs proposed plans, policies and programmes to cover all relevant areas of consideration i.e. the environmental implications of a proposed strategic decision happens early enough to have a significant influence on the nature of development (DEAT 2004:5). SEA allows decision-makers to proactively determine the most suitable development type for a particular area, region or sector. According to Govender et al. (2001:144), SEA focuses on the maintenance and enhancement of a chosen level of environmental quality, rather than minimising individual piece meal impacts. Furthermore, through the integration of environmental, social and economic objectives into the policy, plan or programme process, SEA has the potential to assist in the implementation of sustainability.

As both the concept of ICZM and the SEA process are directly linked to sustainable development, the adoption of the principles of latter was considered as fundamental to any management planning process (UNESCO 1994). Mercadié (1999) on the assessment of the potential impact of the SEA Directive on ICZM, highlights that the objectives of SEA Directive coincide with those of ICZM—the synergies between the two

procedures are emphasised with regard to existing variations, essential information, public consultation, financial aspects and overall assessment.

In the European context, the use of SEA approach is suggested as one of the tools that could enhance the establishment of a European legal framework for the ICZM (European Commission 1999 cited in Gremmenas 2005:39) by assessing and integrating existing sectoral policies and their impact on the use and exploitation of land with special reference to the coastal zone areas. According to Shi et al. (2001:11), SEA for the whole of the ICZM decision-making process would not only overcome the limitations of the existing system of individual project EIA, but would also be a positive step towards attaining sustainable development.

Although there is current thinking across the board about the implementation of SEA, it currently holds no specific legislative requirements in South Africa. However, the NEMA makes provision for the development of assessment procedures to ensure that the environmental consequences of proposed policy, plan or programme are considered (DEAT 2004:6). This provision indicates a need within legislation (national) for the use of SEA.

Methodology

The study is based on information collected through interviews with key coastal stakeholders. The sampling method used was the quota system—a non-probability method of sampling. This is a method of stratified sampling in which the selection of respondents is non-random. Respondents were selected from five categories that were considered to be representative of the stakeholder vested interests in the study area:

- Environmental groups—conservancies, Wildlife and Environmental Society of South Africa, Ezemvelo KZN Wildlife
- Developers— Multi-national companies
- Community-based organisations (CBO)—ratepayers associations, residents, politicians, property owner's associations
- Managers—Coastal Working Groups (CWG), planners and managers representing the Provincial Coastal Management Unit of the Department of Agriculture and Environment Affairs (DAEA) which is the provincial lead agent in development

- Tourist Organisations—Tourism KZN, local tourist organisations, tourist establishments

A total of 10 respondents in each of the categories were interviewed, resulting in a total sample of 50 respondents. A questionnaire comprising both open and close-ended questions was administered on a face-to-face basis.

Results and Discussion

This section presents findings in relation to respondents' perceptions of current development pressures, environmental tools, management constraints and sustainable development in the coastal zone off the KZN north coast.

Development Pressures

Development pressures (both external and internal) in this coastal zone are primarily as a result of the availability of large tracts of undeveloped land, land costs, land ownership dynamics and speculative development activities. External pressures driving development emanate from the apparent 'over-development' of the south coast of KZN, where there is little developable land left. Umhlanga Rocks has reached development capacity, and as there is undeveloped land on the north coast, the development inertia is moving northward. The internal pressure, and biggest driver of development, is land cost (Mather 2005). Vacant land is penalised in terms of rates, as municipalities have always favoured policies promoting development (Mather 2005). Agricultural land is rated low in terms of rates, and once it gets residential, commercial or industrial zoning the rates increase. These factors prompt land owners to either sell or develop their land.

Whilst property development in the area is considered spectacular the development boom is placing a burden on current infrastructure, especially roads, electricity and sewage systems. Development is exceeding infrastructural capabilities, resulting in their complete or partial failure, exorbitant costs to rate payers and environmental damage. Several threats have emerged—development is threatening to engulf the last remnants of indigenous coastal forest, undermining the health of estuaries, causing stress

to dune systems, causing habitat fragmentation and destruction of the aesthetics of the coastline, which is its attraction in the first place.

Most of land in the study area is held in private ownership. A large chunk is owned by Moreland (property division of the largest sugar company on the north coast). In recent years, sugar has been performing poorly due to increased international competition, and is under pressure in South Africa (Markewikz et al. 2000). This has led the Company to look to alternatives, and property is currently the most lucrative. Private ownership does not allow municipalities much leeway in terms of negotiating development in terms of the release of land in appropriate locations and at appropriate times (Markewikz et al. 2000).

Furthermore, land owners seek short-term gains from either developing or selling their land, with little consideration of the overall structure of the area (Markewikz et al. 2000). Coupled with this, the fact that each development activity is assessed on an individual basis through EIA, has led to the proliferation of *ad hoc* development in the area. Economic interests thus appear to be an important impetus for many development projects.

In addition to the above, there exists a stark contrast between the affluent communities east of the (national road) N2 and the abject poverty of those to the west of the N2. Municipalities are faced with challenges over that of providing housing and job creation opportunities for the poor, whilst realising the potential for tourism and quality environments for the wealthier people (Jones 1994:14). In light of the need for poverty reduction, municipalities envisage that the spin-offs from the development boom will filter into poor communities by creating employment in the service sectors (tourism) and in the construction industry.

Perceptions of Environmental Management Tools

The total sample perceptions (Table 1) on the effectiveness of current instruments that regulate development, off the KwaZulu-Natal north coast are discussed below. The respondents were asked to rate current environmental tools used to manage the coastal zone. The specific tools highlighted for this study (in keeping with international benchmarks in land use management tools) are:

Zoning schemes: In South Africa, land use zoning is commonly used and applied through Town Planning Schemes. Zoning is a common tool used in many countries where specific pieces of land are identified for a particular use (residential, industrial, commercial, etc.). Zoning indicates property rights, building height, building boundary lines, percentage building coverage and intensity of land use permitted on a property.

Rates and taxes: are taxes on the ownership of property (land and buildings). They are based on the market value of property, and the revenue generated is used to fund various services provided by the municipalities. Property rates are set, collected, and used locally, hence the charges differ from municipal area to area.

Setbacks: is the distance which a building or other structure is set back from a road, a river, a shore, flood plain, or any other place which needs protection. Types of setbacks include: flood and erosion lines, greenbelts, and setbacks that keep septic tanks at a safe distance from water sources to avoid leaching and their subsequent contamination (Clark 1995). The objective of setbacks is to protect important features like estuaries.

Environmental Impact Assessment (EIA): a process for identifying the likely consequences for the environment, of implementing particular activities, and for conveying this information at a stage when it can substantially affect their decisions to those responsible for sanctioning proposals (Watern 1992 cited in Weston 1997).

Strategic Environmental Assessment (SEA): is a procedure integrated in the political decision-making process that is intended to ensure that the environmental consequences of various plans and programmes are identified, described and assessed before being adopted (Mercadié 1999).

Instruments	**Zoning Schemes**			**Rates & taxes**			**Setbacks**			**EIA**			**SEA (should it be implemented)**		
% Respondents	√	x	?	√	x	?	√	x	?	√	x	?	√	x	?
CBO	30	60	10	10	70	20	10	70	20	20	70	10	60	40	
Environment	20	80		40	50	10	100			30	70		80	20	

Tourist	20	70	10	50	30	20	30 50 20	50 40	70 30
Developers	60	40		70	30		60 40	70 30	40 60
Managers	10	90		60	40		40 60	40 60	70 30
% Total Sample	**28**	**68**	**4**	**46**	**44**	**10**	**28 64 8**	**42 54 2**	**64 36**

Do you feel that the following instruments to regulate development have been successful in achieving sustainability of this coastline? Although SEA is not implemented in your area, do you think it could be successful? Please state reasons for your answers.
Effective √ Ineffective X Unsure ?

Table 1. Total sample perceptions on the effectiveness of current instruments that regulate development, on achieving sustainability of the KZN north coast.

Zoning (68%) was found to be the most ineffective regulatory instrument. Managers stated that it has emerged to be outdated and an inappropriate tool for managing growth as, historically, zoning was determined as 'ribbon/strip' development along the coastline, which did not take cognisance of the ecological constraints inherent in that zone. CBO felt that zoning was overly generous in granting development rights that have resulted in inappropriate development, especially on dune systems and their associated vegetation.

Environmentalists questioned whether the municipality has acted in the public's best interests. Tourist concerns are unable to effectively plan public recreational areas along the beach strip as a result of this zoning. Municipalities are finding this zoning difficult to undo. The reason for this is that much land along the beach has gone from public to private. The eThekwini municipality is currently looking at curbing development pressures caused by zoning, through legal opinion which may arise on matters such as the transfer of development rights or matters needing compensation (Mather 2005). However, compensation may not be a viable option for already cash-strapped municipalities.

Rates and taxes were largely found to be effective (46%). The developer, management and tourist sectors felt that rates and taxes were effective in order to maintain an up market residential and tourist area, and to generate income for the municipalities. On the other hand environmentalists found it to be ineffective. They argue that the profits generated from development go to specific user groups and does not allow the gains to filter to the poor or the environment, hence the development boom is enriching the rich.

For example, the key development of Zimbali (a Moreland initiative) is the largest foreign tourism transaction to date in South Africa, however, the Ilembe municipality cannot account for whether the profit gained has filtered to the improvement in the living conditions of surrounding poor communities. They claim that the region gets revenue from tourism and not the municipality hence it was difficult to say exactly how the money was being counterbalanced with environmental management.

CBOs argued that they are currently paying underdeveloped rates for a natural area and this is not fair on them because they are actually conserving the environment and are penalised for this. The eThekwini municipality is currently looking at environmental servitudes, where the land owner will donate a portion of his land to servitudes, still registered in his name, and gets rates relief on that particular piece of land.

Adherence to setbacks is a large non-compliance issue (64%), and is impacting on both municipalities (prioritising budgets), and ratepayers. Some properties in the Ilembe section of the study area operate on septic tanks for sewage and wastewater disposal. The rate of urbanisation and its proximity to the coastline has resulted in sewer contamination of the coastline. There exist no setbacks for septic tanks on properties. Municipalities are in the interim stage of negotiating handling of coastal sewage discharge. Some of the estuaries have reached their designed capacities as to the amount of licensed sewage they can accommodate. Alternate means of dealing with the sewer problems have hitherto relied on bypass systems to pump excess sewer into other systems. Bypass systems, to date, cost in the region of R25 million (US$4 166 667).

There is also non-compliance to designated setbacks such as flood lines, erosion lines and the prohibition of building in the high water mark. Despite warnings to the contrary, from environmental groups and civic

associations, the municipality (motivated by political lobbying) constructed a recreation area at La Mercy in an active zone in an estuary, and well within both the 1: 50 year flood line and potential erosion line from the coast in 2002. A year later, the area was damaged by floods and resulting severe erosion. Rehabilitation of the area cost ratepayers some R5 million (US$833 333). Coastal stakeholders are irate over the spate of development and the inability of the municipality to deal with the environmental problems.

Of the total sample, 54% stated that EIA have emerged as an ineffective tool to assess proposed activities on the environment and the achievement of sustainable development. What is emerging is that in the rush to develop this coastline, developers are applying the least effort to satisfy minimum regulations, there is lack of mitigation measures and lack of follow-up enshrined in environmental management plans (EMP). Non-compliance to EMP is raising serious concerns for managers. The reasons for non-compliance are: punishment is less severe than going through proper processes. There is a shortage of environmental lawyers in South Africa to defend the environment.

IEM guidelines identify compliance and monitoring as vital components of the EIA implementation stage, however, they are not legally binding and hence leave the issue of follow-up to be undertaken voluntarily. The issue of follow-up is neglected in the ECA, and the NEMA provides only a partial monitoring and management of impacts. Respondents cited the following reasons for lack of follow-up: lack of capacity in municipalities, financial constraints on municipalities, loopholes in legislation and lack of enforcement.

DAEA has until recently lacked the capacity to deal with EMP follow-ups. Their Compliance section has only recently been expanded. Similarly, Ezemvelo KZN Wildlife, with only two people who assess EIA, for the entire KZN, in 2004, has expanded its capacity to six in 2006. The Ilembe municipality had, in 2005, no environmental officer to undertake compliance within its jurisdiction. Respondents also raised concerns over the lack of building inspectors with an environmental focus.

The opportunity for stakeholder participation from environmental and CBO in EIA was found to be highly lacking. The reasons cited were that there is lack of transparency in the development process, interested and affected parties do not have adequate time to comment on proposals, they

require more information and access to it is difficult. Many stakeholders state that political decisions play a very crucial role at local government level, and decisions are more or less already taken, thereby ruling out genuine stakeholder participation.

In an effort to integrate CZM, new management structures have been set up in both coastal municipalities—CWG which provide opportunities for attention to be focused on planning decisions at the local level, while assisting residents in networking with relevant levels of government officials. These structures are intended to improve and encourage participation across all sectors of coastal stakeholders.

The majority of respondents stated that they would like to see an SEA done for the area (64%). Reasons cited were that SEA screens out environmentally unfriendly projects or guides projects before irreversible decisions are taken, and it addresses cumulative impacts. Furthermore, it facilitates pro-active public participation. Managers called for the implementation of SEA linked with a Geographic Information System (GIS) which would assist in identifying and predicting (through scenario testing) the likely impacts of development on the environment and hence aid in management of the coast. This would also assist them with building databases on issues such as property ownership, state of natural resources, sensitive areas etc. Whilst realising the need for creating databases, management raised concerns that some of the impediments were the lack of baseline data and the lack of skilled personnel in the use of spatial support systems.

Local authorities and environmentalists stressed that political influence is strongest at the municipal level, and it currently supports development and its' anticipated job creation potential. Hence, it is not easy to get political buying in on policy, plan or programmes that aim to regulate development. Furthermore, SEA has not been effectively tested in South Africa, and is generally found to be context specific where it has.

Managers and CBO were uncertain how an SEA would affect private land ownership. Moreland has come under immense scrutiny for 'monopolising' development in the area. Since they own extensive land, they have done a lot of planning themselves and a lot of it has been done in isolation of the municipality. There are stark conflicts of interest regarding ownership and planning of land between private land owners and the municipalities.

Developers were the principle group unsure about implementing SEA, and were the largest supporters of EIA. Many claimed that they adhered to strict environmental regulations, and included specialist studies, and that there was no need for SEA. Furthermore, they argued that further legislation would delay the development process and would result in time and financial delays. However, CBO and environmentalists claim that there is also a lack of expertise in the consulting arena, with too many generalists and not enough specialists, hence the ineffective coverage of Red Data Species among other things.

Red Data Species are difficult to identify especially in winter and are poorly known (except by experts) and are generally overlooked by consultants. Most private consultants work with small budgets and have three months to comment. Time and financial constraints do not allow for the deferment of projects to ensure the coverage of these species. The environment does not respond to the developer's time frame and important environmental aspects pertaining to seasonal variation is not effectively considered.

Generally, capacity of municipalities to deal with these issues is weak and disproportionate to the tasks. They also face the juggling act of attempting to maintain broad political support, provide services, to maximise residential tax base and maintain a healthy coastal environment.

Management Constraints Regarding Development Pressures

Some of the most important legislation guiding development and the environment emanating from a critical examination of the White Paper for Sustainable Coastal Development in South Africa and discussions with the respondents are highlighted below.

The National Environmental Management Act (NEMA) of 1998: establishes a framework to give effect to the White Paper on Environmental Policy for South Africa. It emphasises co-operative governance and promotes integration and coordination of government environmental functions.

The Development Facilitation Act (DFA) of 1995: facilitates and fast-tracks development programmes and projects in relation to land and principles governing land development in South Africa. It came into effect to fast-track land delivery for low-cost housing, and this remains its focus.

The Town Planning Ordinance of 1949: requires that the developer prove 'need and desirability' of a project from the general public's point of view. It is the principle planning legislation that sanctions development.

In relation to the policies listed above, a range of challenges were also identified. These challenges relate to: policy issues, administrative and organisational aspects of resource management and limited human and technical capacity; and are discussed below.

Policy issues: Problems experienced by coastal managers relate to the dual process that exists between planning and development legislation on the one hand, and environmental legislation on the other. The Ordinance came into effect (and has not changed) at a time when the environment was not a consideration and resources were plentiful. It currently holds more sway in development decision-making than the NEMA, so planning legislation has little to do with the environment. Furthermore, developers can choose between the Ordinance or DFA route. The DFA tends to go through a number of processes very quickly, does not require a 'need' assessment, and there is still question as to how capital projects are using this route which is intended to fast track low-cost housing projects.

Administrative and organisational aspects of resource management: since CZM in South Africa has not enjoyed the privilege of being a distinct activity in the past, it has inherited a plethora of overlapping jurisdictions of government agencies with authority on the coast. What have emerged are conflicts in the interpretation, application and implementation of legislation, and jurisdictional conflicts.

For example, environmental departments would advocate biodiversity issues and the planning departments would side with the developer. There exists confusion in permission-granting processes, e.g., the breaking of new ground for development requires the approval of two departments within the DAEA i.e. sub-department of Agriculture and the sub- department of Environment. Usually, permission is granted by the sub-department of Agriculture, and the developer has already considerably converted the land and its conservation value is lost, before the sub-department of Environment gives permission.

Furthermore, there exists sectoral jurisdiction over the same resource for example estuaries (which are managed separately by the Department of Water Affairs and Forestry, the DAEA, Department of

Minerals and Energy which has interests in sand mining), which results in inconsistencies and duplication of information.

Limited human and technical capacity: current limitations to the execution and management of development are: staff shortages, particularly in the compliance and enforcement arenas. There is a lack of skills pertaining to human capacity in the field of coastal management and resource managers. There is currently lack of personnel with experience and access to latest technologies (remote sensing, GIS analysis) and methods (modelling and scenario testing), to deal with complex spatial dimensions of coastal environmental issues.

Differing interpretations and application of legislation, coupled with the confusion in permission-granting processes, jurisdictional conflicts and lack of municipal capacity to deal with compliance has created loopholes for the current development juggernaut.

Conclusion

The current trajectory of development occurring on the KZN north coast is proving to be unsustainable. While environmental interests are obvious and widely proclaimed, the delivery of truly sustainable products require controls and regulations which do not easily blend with entrepreneurial activities. ICZM is the key vehicle to facilitate the transformation from unsustainable to sustainable. However, in order for ICZM to occur, there is a need for a long-term and strategic focus. More than half of the respondents interviewed called for a SEA for this area in light of the failure of EIA to deliver truly sustainable development.

Current challenges to implementing SEA in South Africa are: facilitating capacity building and training, providing baseline conditions and information, and improving coordination between various institutional structures (DEAT 2004:12). This case study highlights these aspects, and therefore suggests that the lessons learned from this case study can, to an extent, be generalised as the issues facing other coastal areas of South Africa, in terms of development pressures and management constraints.

However, implementing SEA has proved to be context specific to where it has been implemented and therefore there is a need for a clear understanding of SEA and sustainability concepts among government bodies

and other stakeholders within a particular locality. Among other things, there also needs to be appropriate institutional arrangements between stakeholders, government sectors clarifying their roles and jurisdictional responsibilities over coastal resources and harmonising policies that are in line with clearly defined objectives for this coastline in order to achieve ICZM.

Despite the lack of a specific national framework legislating SEA, one of the frequent recommendations made on implementing SEA is: start doing it! (Therivel & Partidario 1996). Finally, improving capacity in the areas of spatial data handling is essential – SEA that is appropriately integrated with the use of spatial data and analysis can assist in achieving sustainability by informing decision making that contributes to sustainable development (Alshuwaikhat 2005:314).

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