A *Post Hoc* Scoping Assessment of the Rapid Rate and Scale of Urban Development Along the 'West Coast': 3 Case Studies

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(i) Abstract

Small towns on the West Coast have undergone rapid growth and development in recent years. This study is a *post hoc* (post-development) investigation into the effects of the rapid rate and scale of growth on small towns along the West Coast, utilizing case experience from Langebaan, Paternoster and St. Helena Bay. Face-to-face interviews were conducted in the three towns from the 9th to the 12th of May 2006 using a questionnaire to structure the interviews.

The economy of Langebaan is driven by tourism and the property market, both of which are growing rapidly. Of concern in Langebaan is the loss of 'sense of place' of the town. The value of land in Paternoster has grown, making it unaffordable to the local lower-income residents. There are problems with the provision of infrastructure, services and low-cost housing in St. Helena Bay. The cost of living has increased a great deal in recent years due to an increase in the number of middle-to-high income residents and tourists in St. Helena Bay. The architectural style of St. Helena Bay has not been maintained, which has resulted in a loss of sense of place and craft.

The growth of towns along the West Coast has made large contributions to their local economies and has increased the number of business and employment opportunities available. Despite the obvious economic advantages of this growth, it is also placing a burden on the Saldanha Bay Municipality and the resources of the towns. Many local residents lack the skills required to take advantage of these new opportunities and are therefore unable to benefit from them. The growing populations in all three towns have led to increased competition for work. There has been a loss of social cohesion and a loss of topophilia in a number of coastal towns. The 'character' of the towns has been lost through changes in architectural style and the rapid influx of 'outsiders'. The strandveld vegetation that is predominant on the West Coast is becoming increasingly threatened by urbanization and urban sprawl.

The economic benefits of growth are easily noted, as are the negative effects on the biophysical environment. What has become evident in this study are the negative effects of this growth on the social environments in the region.

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Component A

Chapter 1: Introduction

Many towns on the 'West Coast[1]' of South Africa have undergone and are undergoing extremely rapid growth and development at present. This growth becomes evident when one travels up the West Coast and notes the number of new developments present, developments being advertised and developments being constructed. Growth of this nature is having environmental impacts (biophysical, social and economic) and it is important to identify and describe these impacts, both positive and negative, in order to identify possible future benefits and costs deriving from similar developments.

This study is a *post hoc* (post-development) investigation into the effects of the rapid rate and scale of growth on small towns along the West Coast. In particular, it will investigate the effects of this growth on three towns on the West Coast *viz.* Langebaan, Paternoster and St. Helena Bay. All fall within the boundaries of the Saldanha Bay Municipality. Figure 1 indicates the location and extent of the Saldanha Bay Municipality within the Western Cape province of South Africa. Figure 2 shows the West Coast and indicates the towns situated along it, including Langebaan, Paternoster and St. Helena Bay.

Although there was growth on the West Coast during the 1990's, this growth accelerated markedly since the year 2000[2]. This study will therefore be focused on the effects of change that have occurred since 2000.

[1] The west coast of South Africa extends from Cape Point in the south to the northwestern border with Namibia. This term differs from what is colloquially known as the 'West Coast', which ranges from Melkbosstrand in the south to Doringbaai in the north (Figure 2).
[2] See figure 7.

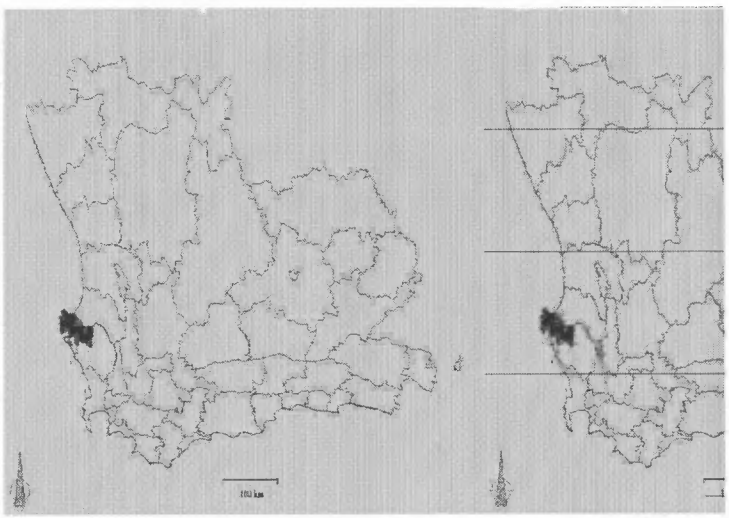

Figure 1: Location of the Saldanha Bay Municipality within the Western Cape Province.

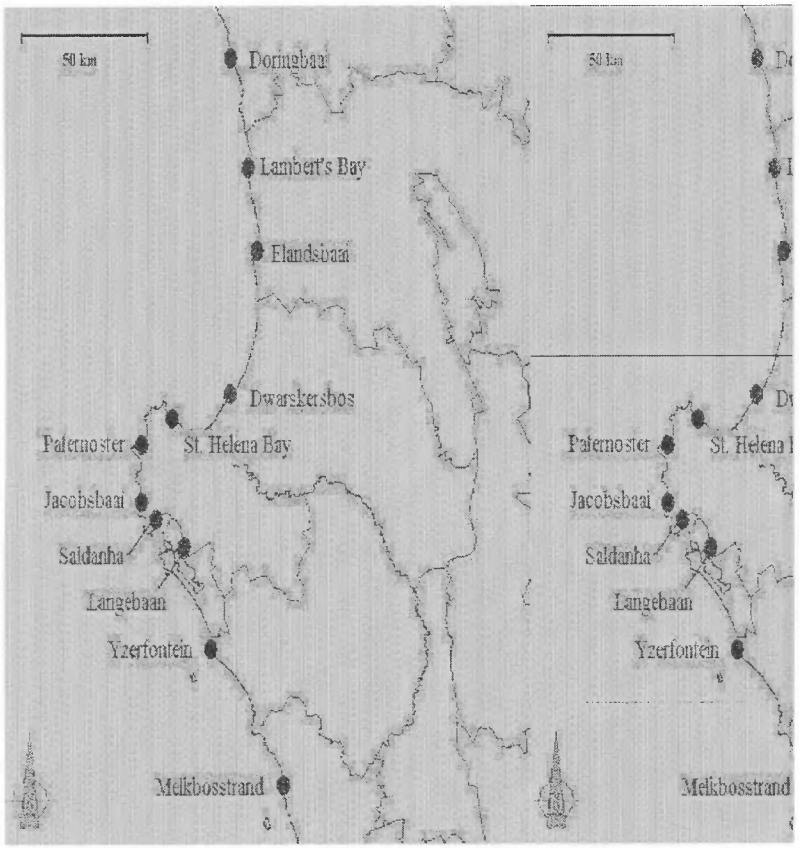

Figure 2: Locations of settlements along the West Coast

Langebaan, Paternoster and St. Helena Bay were chosen as focus points because they are reasonably small coastal towns that have, or had, an intrinsic sense of place created by their histories, cultures and unique architectural styles. All three of these towns are growing extremely rapidly and are becoming increasingly visible targets for developments and tourists. They are representative of towns on the West Coast and can therefore provide insight into what is occurring in other towns like them. Figures 3, 4 and 5 below show the extent of the growth of these three towns[1].

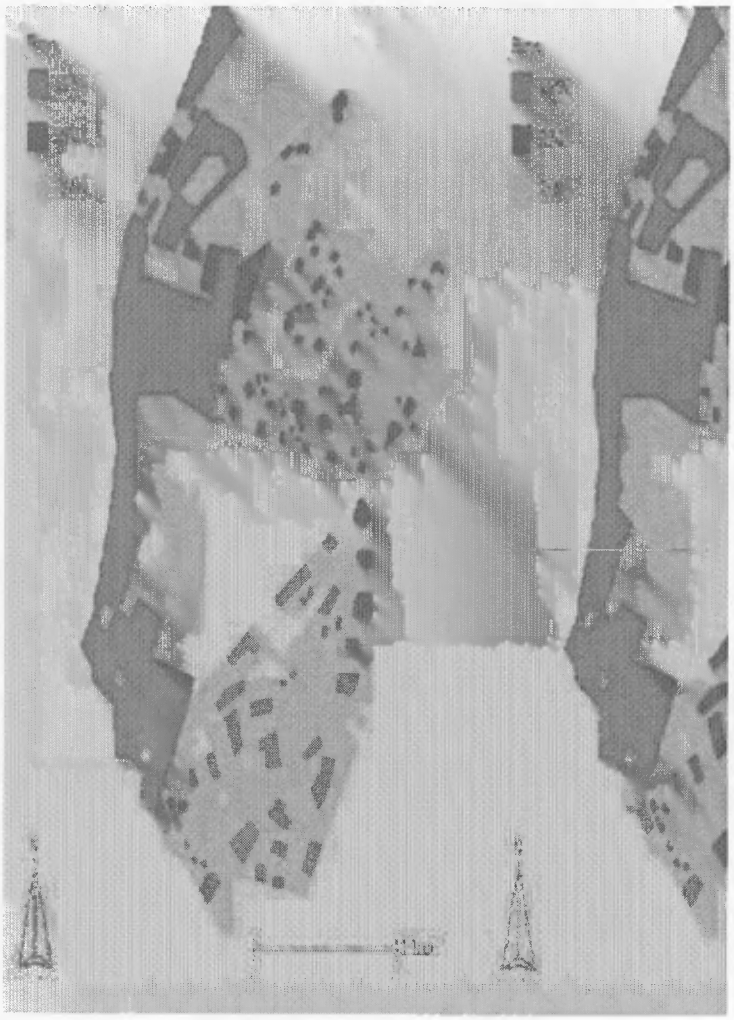

Figure 3: Growth of Langebaan.

[1] Figures created by comparison of aerial photographs.

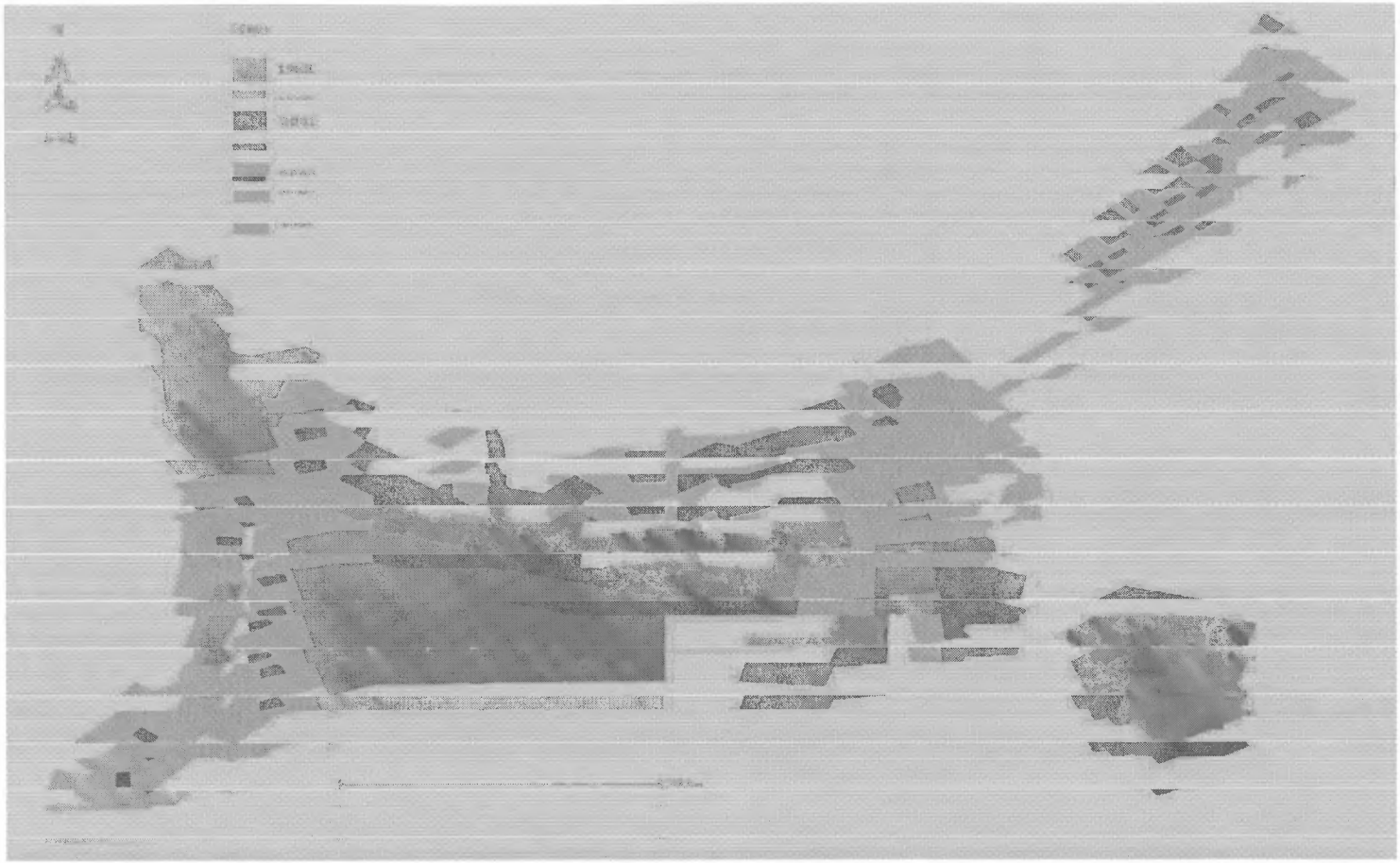

Figure 4: Growth of Paternoster.

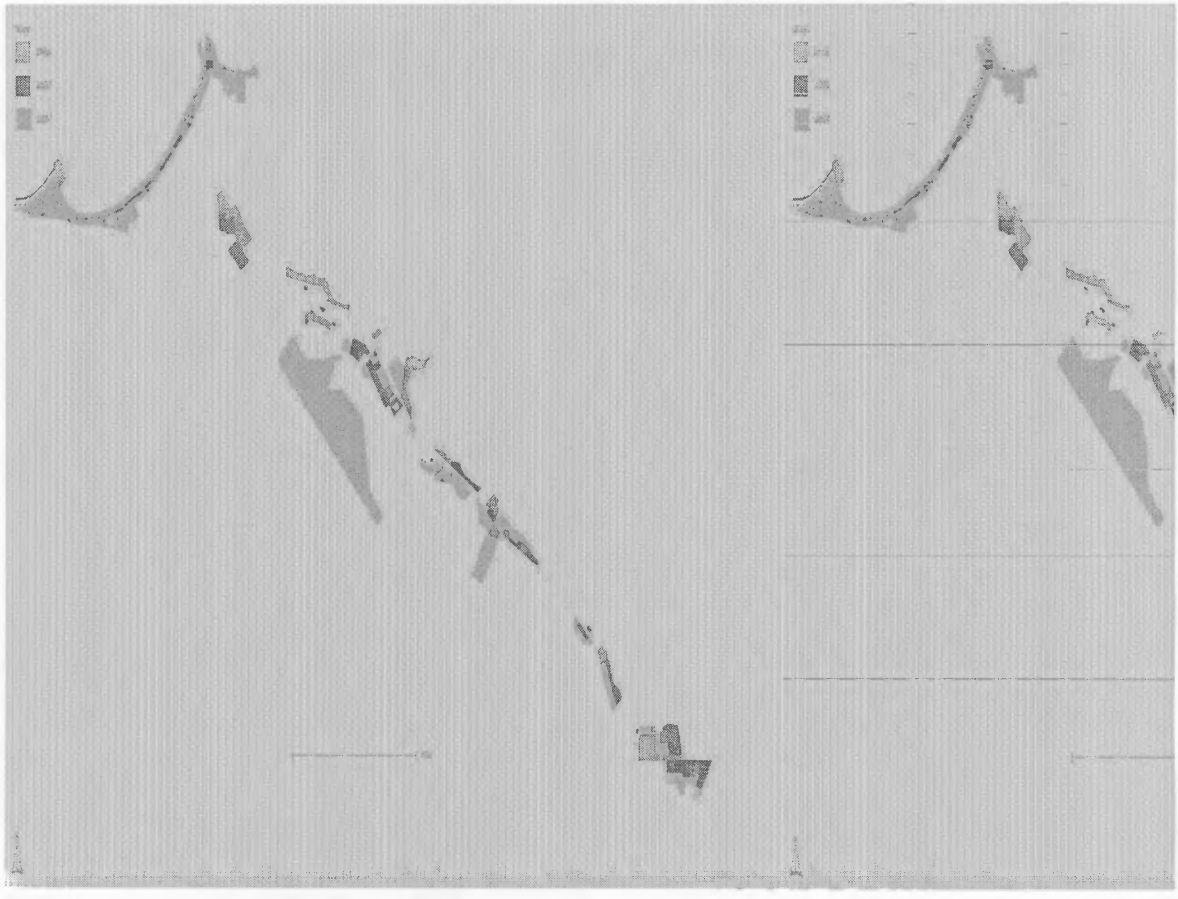

Figure 5: Growth of St. Helena Bay and surrounds.

Post-hoc or post-development impact assessment involves the identification of impacts of developments after they have been implemented. In the impact assessment process, emphasis is generally placed on pre-decision activities that help to inform whether or not developments should be implemented and if so how? Very little attention is paid to the environmental effects that actually occur after a project has been implemented, despite the theoretical emphasis placed on the need for monitoring and the development of management plans in the National Environmental Management Act (Sadler, 1990). The lack of follow-up after a project has been implemented is regarded as a major flaw in the Impact Assessment process (Sadler, 1990).

Case studies, when aggregated, allow for generic categories of impacts to be identified under similar circumstances. They also enable comparative analyses. Ecological and social systems are characterised by uncertainties and when assessing these systems, learning from precedent is highly informative. In situations where impact assessments are not a legal requirement, such as is the case for individual residences and small-scale developments (Anon, 1998a), *post-hoc* impact assessments are a useful means of identifying relevant environmental issues for consideration of future development applications such as rezonings and departures (Sadler, 1990). *Post hoc* impact assessments therefore provide precedents that can be applied in other, similar, situations.

The intended value of this study is that it will contribute to the identification of environmental issues associated with rapid growth of small towns such as these along the South African coastal littoral. By identifying the nature and scale of impacts in a given context, comparative studies can be conducted in similar situations and from the aggregate of these generic issues can be identified. By gaining an understanding of the nature and scale of impacts in this situation, possible future scenarios for towns such as these can be developed.

One of the original aims of this study was to investigate the predictive veracity of Environmental Impact Assessments (EIA's) conducted for developments along the West Coast. This was to be carried out by reviewing the impact assessments carried out for the developments already completed along the coast and comparing the impacts predicted against post-development outcomes.

This aim could not be carried out because of a paucity of EIA's conducted along the coast. Almost all of the development that has taken place in small towns on the West Coast is in the form of small homes and small residential developments. Individually, small-scale developments such as single homes and small residential developments are regarded as having little environmental impact[1]. Environmental Impact

[1] Their potential cumulative impacts are often overlooked.

Assessments (EIA's) were therefore not a legal requirement for much of the development on the West Coast. The EIA regulations stipulate that any new development activities that cover an area in excess of 20 hectares require EIA's do not require EIA's (DEAT, 2004)[1]. These single residential homes and small developments therefore require no EIA's.

The 'listed activities' that require EIA's were first identified in Schedule 21 of the Environment Conservation Act of 1989. Until 1997, these listed activities were very rudimental[2]. As will be described in Chapter 3, the government gazetted a more detailed list of activities in 1997, which resulted in an increase in the number of EIA's conducted and in them becoming more detailed. A number of the large developments along the West Coast did not have any EIA's carried out before they were implemented because they were approved before 1997 and were not 'listed activities' at the time. This is a major problem in South Africa as many developments that are not environmentally sensitive are legally entitled to be implemented. The *Coastal Zone Policy for the Western Cape* (2003) states that having existing development rights does not grant developers absolute and unlimited rights in terms of format and scale, that development rights are subject to legislation and environmental limitations and new developments must conform to the Requirements of Spatial Development Frameworks. Although this policy is in place, it is as of yet still not legally binding. Pre-1997 approved developments could therefore still be developed without EIA's.

There is therefore little information available regarding the effects of these developments. This study provides information on these developmental effects, which can be applied in future studies in the region.

1.1. Problem Statement

Development and growth along the West Coast has been taking place at a very rapid rate. One view is that this growth is having overall positive impacts due to

[1] These regulations have recently been amended.
[2] See Chapter 3.

improvements with regard to the local economy and the way of life. Another view is that "the spread of urban and resort development on the coastline, without due consideration to appropriate planning and environmental constraints, destroys the unique qualities of the natural environment and produces inappropriate man-made places" (DEADP, 2003. Pg. 37).

Aims:

- The broad aim of this study was to identify the positive and negative effects of growth on small towns along the West Coast of South Africa.

Objectives:

- Conduct a *post hoc* scoping assessment in order to determine:
    - The effects of growth specific to Langebaan, Paternoster and St. Helena Bay.
    - The generic effects of growth on towns along the West Coast.

In order to gain an understanding of the effects of growth on the environments of towns on the West Coast, it is important to have an understanding of the region as well as what is driving the growth and development in the region. Chapter 2 will provide an outline of the region as well as an explanation of these driving forces.

Chapter 2: Development and Growth on the South African West Coast

The growth of towns on the West Coast is closely tied to changes that have occurred in the Saldanha Bay Municipality. This chapter will therefore describe the Saldanha Bay Municipal region and will outline the changes that have occurred in recent years. Following this will be an explanation of the reasons underlying these changes. It will then describe the three towns being investigated.

2.1. Overview of the Saldanha Bay Municipality

2.1.1. Economic environment

The economy of the Saldanha Bay Municipality is undergoing considerable change at present. In the past, the economy was dominated by, and was highly dependent on, fishing and agriculture. Recent years have seen the rapid growth in the manufacturing sector as well as in tourism. These changes have the potential to contribute to massive economic growth, but may have negative social implications.

Figure 6 indicates the percentage of the population within the Saldanha Bay Municipality that work within the various economic sectors. Tourism is not shown here as its economic contribution is through other economic sectors such as trade and manufacturing.

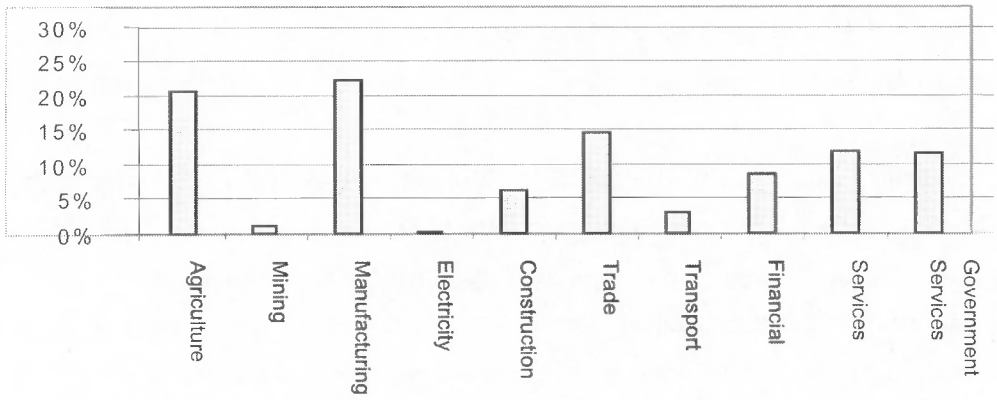

Figure 6: Percentage employment by sector (Adapted from: Saldanha Bay Municipality, 2005)

Agricultural sector

In the Saldanha Bay Municipal Area, agriculture plays an important role in the economy. Agriculture, which includes fishing, is the second largest economic sector in the region as well as the second largest employer. Roughly 21 percent of the population is employed within the agricultural sector (Saldanha Bay Municipality, 2005).

The Saldanha Bay Municipal Area's agricultural sector is formed mainly of the production and processing of fish products, animal products, wheat products, vegetables, fruit and garden products.

The West Coast of South Africa has a history of fishing that extends for over 300 years. About 70 percent of the fishing that takes place in South Africa is carried out on the West Coast (Saldanha Bay Municipality, 2005b). The success of the fishing industry on the West Coast is primarily due to the exceptionally high productivity of the waters of the Benguella current off the west coast. Upwelling off the west coast brings nutrients up from the deeper water. These nutrients support large quantities of phytoplankton, which in turn supports a highly productive marine ecosystem. Many of the towns on the West Coast (e.g. Saldanha, St Helena, Paternoster and

Laaiplek/Velddrif) are highly reliant on the collection and processing of marine products. The fishing industry is therefore vital to the economies of these towns.

The fishing industry on the west coast has 5 sub-sectors (Saldanha Bay Municipality, 2005b). Deep-sea fishing is South Africa's largest commercial fishing industry and is concentrated at Saldanha Bay. Big companies that focus mainly on catching hake, mackerel and kingklip dominate this sub-sector. Pelagic fishing is the largest sub-sector in terms of catches such as anchovies and sardines. It is seasonal and generally unstable, but is still an important sub-sector along the west coast. There are a number of factories linked to pelagic fishing extending from Saldanha to Lambert's Bay. West Coast Rock Lobsters (locally called crayfish) are found along the entire coast. They provide a large contribution to the local fishing industry. The lobster sub-sector is labour-intensive and seasonal. It has experienced a large-scale decrease in productivity in recent years as a result of over-exploitation. Line-fishing includes squid jigging, tuna and general recreational and commercial line fishing. This sub-sector is mainly subsistence and seasonal and is very common in the smaller towns in the region. The fifth and last fishing sub-sector on the west coast is mariculture, which predominantly involves the cultivation of mussels, oysters and seaweed. This sub-sector is concentrated and dominated by big companies and has grown rapidly in recent years.

A problem seen with the agricultural industry of the area is that it is focused primarily on the production of primary or raw products. The municipality is currently placing a great deal of emphasis on increasing the amount of "value-adding" on products. This can be seen in the increasing numbers of processing plants present in the area. By processing a primary product, it increases in monetary value, thereby increasing the income obtained from that product. Changes such as this will increase the economic productivity of the area, thereby attracting further industry. In order to do this, the municipality is placing a great deal of effort into attracting investment to the area. This is necessary because processing needs a great deal of start-up capital before an increase in profit can be achieved.

Manufacturing sector

The largest economic sector in the Saldanha Bay Municipal area is the manufacturing sector. This sector provides work for about 22 percent of the population and contributes 29.7 percent of the area's Gross Geographic Product (Saldanha Bay Municipality, 2005). The manufacture of food and beverages, as well as the processing of metal are the largest industries within the manufacturing sector.

Fish processing does not have as large a contribution as food and beverage production and metal processing, but it does play a very important role in small coastal towns in the region, as it is often a primary component of their economies, along with tourism (Saldanha Bay Municipality, 2005b). Fish processing plants can be found along the coast from Saldanha Bay in the south to Doring Bay in the north.

There are a large number of heavy steel and mineral industries, cement manufacturing and supporting service industries at Saldanha Bay and at Vredenburg. This concentration of steel and mineral processing can be attributed to the close proximity of the Saldanha Harbour and of the Saldanha – Sishen railway line (Saldanha Bay Municipality, 2005b). As its name suggests, this railway transports iron ore from the iron mine at Sishen to Saldanha.

Building and construction sector

There has been a rapid expansion of business-related development, housing development and tourism-related construction in the region in recent years. A number of these activities have had a direct effect on the construction sector, thereby contributing to the economy of the region. These include an Oil and Gas hub, the development of Club Mykonos, the Shelley Point Golf Estate development, the development at Blue Water Bay Resort in Saldanha, the development of the Langebaan Country Estate, and a number of other property developments (Saldanha Bay Municipality, 2005b).

Club Mykonos at Langebaan alone has over 1500 beds and has an occupancy rate of over 86 percent throughout the year (Saldanha Bay Municipality, 2005b). This development experiences high demand and is currently being expanded. The Langebaan area has become very attractive to developers and homeowners and as a result, property values in the area are twice as high as at Vredenburg and Saldanha (Saldanha Bay Municipality, 2005b). Beachfront plots were selling at about R2.2 million in 2005 and properties continue to increase in value (Saldanha Bay Municipality, 2005b). This area is attractive due to its close proximity to Cape Town, its safety, its tranquil settings and its attractive surroundings.

Residential developments in the area, mainly for retirement and tourism, are being developed extensively. Figure 7 indicates the number of plans approved per financial year by the Saldanha Bay Municipality from the beginning of the financial year in 2001 until December 2005. This figure indicates that the number of plans approved per financial year has more than doubled in the last 6 years. This is placing an enormous strain on the municipality not only because of the time taken to evaluate applications, but also because the municipality must provide the infrastructure and services for these new buildings.

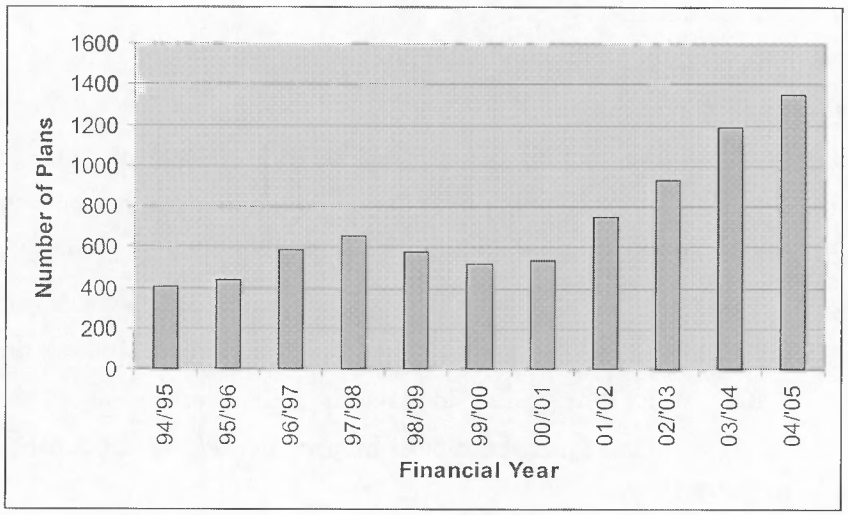

Figure 7: Building plans approved per financial year by the Department of Planning for the Saldanha Bay Municipality (Source: Department of planning, Saldanha Bay Municipality)

There are a number of other potential developments which will influence the building and construction sector and therefore the local economy. These include an oil and gas hub, an airport which will benefit both tourism and industry, a plastic surgery hospital development, shopping malls and a renewable energy development (Saldanha Bay Municipality, 2005b). Winds over 20km/hour are common in the Saldanha Bay Municipal area and as a result, it is viewed as a potential site for the generation of wind energy. The development of an oil and gas hub is currently being undertaken in the Saldanha Bay Municipal area. The success of this will greatly influence the economy of the region.

Transport, communication and storage sector

Transport is vitally important to the social and economic development of a region as it makes services accessible and makes the distribution of services more effective (Saldanha Bay Municipality, 2005b). The region has over 97km of road, 3 railways and 8 formal airfields, as well as the Saldanha Harbour (Saldanha Bay Municipality, 2005b). This port is the deepest and largest natural port in Southern Africa and has a circumference of 91 km (DEADP, 2003; Saldanha Bay Municipality, 2005b). It is the only port in South Africa that handles iron ore and has a throughput of over 36.7 million tons per year (Saldanha Bay Municipality, 2005b). Crude oil is imported through the port and iron ore, base metals, manufactured steel products and other commodities exported. The development of the harbour for handling 'bulk exports' will also greatly stimulate economic development in the region (as well as relieve the pressures face by the harbour at Cape Town).

Tourism sector

The tourism sector of the Western Cape Province is the strongest of any province in South Africa, contributing 30 percent to the national tourism industry (Saldanha Bay Municipality, 2005b). An estimated 758 400 tourists visited in the Western Cape in 1999, which rose to 1 005 751 visitors in 2003 (Saldanha Bay Municipality, 2005b). The *Provincial White Paper for the Western Cape* set a target of four million overseas

tourists per annum by 2010 (Micro-Economic Development Strategy for the Western Cape, 2005 in Saldanha Bay Municipality, 2005b). It was estimated that of the tourists that visit the Western Cape, 13 percent travel to the West Coast region (Saldanha Bay Municipality, 2005b). This means that about 130 748 tourists visited the West Coast in 2003 and if the target of four million tourists is reached by 2010 then 520 000 tourists will visit the region per year (provided 13 percent of the visitors still travel to the West Coast). The Saldanha Bay Municipality is placing a great deal of emphasis on the development of its tourist sector with the hope that it will continue to grow.

The West Coast is an attractive tourist destination for a number of reasons. It is regarded by many as being one of the most attractive areas of the country. Both the coastal areas and the inland areas are known for their distinctive scenic attractiveness. The region is well known for its strandveld and fynbos vegetation, which attract a great number of tourists. Other tourist attractions include water sports, golf courses, unique fauna and flora (the spring wildflowers are a particular seasonal attraction), the Mykonos Casino, the unique architecture of the west coast, restaurants (many of which supply fresh seafood), and cultural and historical attractions such as the Fossil Park and the West Coast National Park. Many of the smaller towns have an intrinsic character created by their unique cultural history, architecture and scenic beauty (DEADP, 2003). Life in cities can lead to a great deal of stress. People are therefore drawn to areas that are quiet and where they can relax. There are many places along the west coast that attract people for this reason. Towns and villages that fall within the Saldanha Bay Municipality are a relatively short distance from Cape Town. The greatest distance that one needs to travel to get to any of its attractions is roughly 200km. This makes the area easily accessible to tourists and people with holiday homes in the region.

Although the tourism sector of the area is already significant, there are a number of other initiatives that have been proposed to boost tourism in Saldanha Bay and its environs. These initiatives could result in a considerable amount of growth within the

region through direct and indirect functional linkages, such as increasing the productivity of the trade sector in the region (Saldanha Bay Municipality, 2005b).

2.1.2. Demographics

According to the Saldanha Bay Municipality (2005), the population of the Saldanha Bay Municipal area grew from 51 238 in 1996 to 82 825 in 2002. This indicates a population growth rate of 6.6 percent per annum. This is far greater than that of South Africa, which has a population growth rate of 2 percent per annum, as well as the Western Cape Province, which has a population growth rate of 2.7 percent per annum (Saldanha Bay Municipality, 2005b). It is also considerably higher than the growth rate in the municipal area from 1991 to 1996, which was only 3.3 percent per annum (Saldanha Bay Municipality, 2005b). Thus, not only is the population growing, the growth rate is also accelerating. Statistics show that the principal towns of Saldanha and Vredenburg have absorbed only 20 000 new residents in the last 4 years (Saldanha Bay Municipality, 2005b). This emphasises the extremely rapid growth in the populations of the smaller towns within the region.

Most new residents are either older people returning to the region or retiring to the region, or younger people seeking jobs. These jobs are generally linked to large-scale industrial developments such as Saldanha Steel, Duferco, Pretoria Portland Cement and Namaqua Sands heavy mineral processing (Saldanha Bay Municipality, 2005b). A large percentage of the working population have jobs within the agricultural and fishing sector. This sector is generally seasonal in nature, which has both social and economic implications due to unpredictable and fluctuating incomes.

According to the Census carried out in 2001, the population of the Saldanha Bay Municipality is roughly 64 percent Coloured, 17 percent Black, 17 percent White and less than 1 percent falling in other population groups.

52 percent of the labour force is employed, 33 percent is not economically active and 14 percent is unemployed (Saldanha Bay Municipality, 2005). The unemployment

levels are lower than both the Western Cape which has an unemployment rate of 17 percent and South Africa which has an unemployment rate of 14 percent (Saldanha Bay Municipality, 2005).

2.1.3. Biophysical environment

The Saldanha Bay Municipality falls within the Cape Floristic region, which is regarded as a global biodiversity hotspot. There are over 9000 species of plants within this region, roughly half of which are endemic (DEADP, 2005).

Low rainfall on the land has resulted in arid conditions with nutrient-poor and sandy soils. The vegetation that grows in this soil is sparse and shrub like. The vegetation along the West Coast is typically strandveld, frontal vegetation and dry dune shrubveld (DEADP, 2005). These vegetation types have an intermediate importance for conservation, but are still at risk due to urban growth.

There is a low diversity of marine organisms off the West Coast, but there are large numbers of certain species. This is due to the up welling of cold, nutrient–rich water off the coast. These nutrients support large quantities of phytoplankton, which form the basis of the marine food chain.

The West Coast is well-known for its bird-life. There are an estimated seventy-five species of bird permanently residing at Langebaan, with about 250 species migrating through the area each year (Saldanha Bay Municipality, 2003). There is also a high diversity of bird-life, mammals, amphibians and freshwater fish in the region.

According to the *Western Cape State of the Environment report* (2005), the terrestrial ecosystem is well protected at the West Coast National Park and along the coast between Saldanha and Dwarskerbos (just north of Paternoster). Apart from these two

sections, the remainder of the Saldanha Bay Municipality is 'poorly', 'hardly' or not protected[1] (DEADP, 2005).

The natural beauty of the region is regarded as one of its most important assets. The tourism that is based on this unique environment makes a very important contribution to the local economy.

2.2. Reasons underlying rapid growth on the West Coast

Although the rural areas along the west coast are generally poor, the West Coast region has experienced a great deal of growth in recent years and has a relatively strong economy (Saldanha Bay Municipality, 2003). This growth began to accelerate in the year 2000[2] and this year has therefore been used in this study as a benchmark against which change is measured. As described above, the economic base is multifaceted.

In the year 2000, offshore natural gas reserves were discovered south of the Namibian border on the west coast of South Africa. This reserve was named the Ibhubezi prospect and is known to have reserves of 0.27 to 0.3 trillion cubic feet of hydrocarbons (Saldanha Bay Municipality, 2003).

The area has a limited supply of fresh water. Despite this limitation, the area has attracted a great deal if investment in industry, shipping, mariculture, manufacture and tourism (Saldanha Bay Municipality, 2003). The prevailing aridity of the area has resulted in there being limited agricultural potential (apart from marine related 'agriculture'); the economy is therefore being increasingly driven by industry and tourism (Saldanha Bay Municipality, 2003).

Due to the perceived under-development of the West Coast, the government has placed a great deal of emphasis on the importance of attracting investment and

[1] Classification provided by *Western Cape State of the Environment Report.*
[2] Note acceleration in number of application from 2000 onwards, figure 7.

development to the district. The Government has identified the West Coast as being one of eight "Spatial Development Initiative" locations (Empowerment for African Sustainable Development, no date). This initiative involves creating schemes whereby incentives are provided for potential investors in this region. Initially these schemes were centered on prospects created by the Saldanha Steel Mill, but over time what was to become known as the West Coast Development Initiative was expanded to include agriculture, tourism and fishing (Empowerment for African Sustainable Development, no date).

Industrialisation, property development and tourism have led to the economic growth of the area. This economic growth has in turn impacted upon the environment (socio-economic and bio-physical) of the region, which necessitates the implementation of planning and management. Major management issues in the area include air and water pollution, salinisation of the coastal aquifer, restricted access to coastal resources, ribbon development, inappropriate land use and changing the way of life of historical communities (DEAT, 2000). As observed, the economic growth in the area has also attracted increasing numbers of people, thereby increasing the need for infrastructure and government services (DEADP, 2003).

The paper produced by the Saldanha Bay Municipality entitled *Economic Status Quo: Saldanha Bay* (2005) outlines the strengths and weaknesses of the Municipality economically as well as the opportunities available to and the threats faced by it with regard to economic growth. Table 1 below indicates these strengths, weaknesses, opportunities and threats.

Table 1: Strengths, weaknesses, opportunities and threats (Adapted from: Saldanha Bay Municipality, 2005)

STRENGTHS	WEAKNESSES
▪ Well-developed policy framework. ▪ Relatively strong Agriculture, Manufacturing and Trade sectors. ▪ Sufficient social services such as schools and clinics are present in the area. ▪ Strong potential new economic developments. ▪ Employment opportunities relating to new constructions.	▪ Domination of economy by Manufacturing and Agriculture sector. Lack of diversity indicates a vulnerable economy. ▪ Low level of education and skills in the local workforce. ▪ Not enough employment opportunities in the area. ▪ High Leakage, due to close proximity to Cape Town.
OPPORTUNITIES	**THREATS**
▪ Growing national economy. ▪ High demand for agricultural products in the Western Cape. ▪ Strong transport linkages with the surrounding economies. ▪ Oil and Gas Hub development. ▪ Development of the harbour. ▪ Development of Plastic Surgery Hospital for International Patient. ▪ Potential for an Airport.	▪ Limited job opportunities for growing number of job seekers attracted to the area by groing economy. ▪ "Red-Tape" constraints to development at all spheres of government. ▪ Leakage of buying power to other parts of the Western Cape. ▪ Strong competition from the rest of the Western Cape in terms of Trade, Finance, Manufacturing and Tourism. ▪ High levels of unemployment and crime throughout South Africa. ▪ HIV/AIDS. ▪ Availability of employment opportunities outside Saldanha Bay Municipality.

2.3. Descriptions of the three towns investigated

2.3.1. Langebaan

Langebaan is situated on the Langebaan lagoon approximately 100 kilometres north of Cape Town. It was originally inhabited by the Khoi, who were joined by Europeans

in 1601 (Saldanha Bay Municipality, 2003). Over the years, the French, Dutch, Portuguese and English moved to the site.

Langebaan has a population of roughly 5295 people, of which 4 percent are Black, 44 percent are Coloured and 52 percent were White (Saldanha Bay Municipality, 2006).

The town itself does not support any major industry. The economy of Langebaan is therefore primarily based on tourism and property.

2.3.2. Paternoster

Paternoster is situated about 145km north of Cape Town. Paternoster is a historical fishing village that is rapidly growing as a tourism destination. The local low-income members of the population are heavily reliant on marine living resources for their livelihoods. Most of these people work at the lobster factory or obtain fish and crayfish (West Coast Rock Lobster) for subsistence.

Paternoster has a population of about 2070 people, 83 percent of which are Coloured (Saldanha Bay Municipality, 2006). The remaining population is made up of 9 percent Black people and 8 percent White people. This population is almost entirely Afrikaans speaking. Figure 8 shows the middle to upper income portion of Paternoster. Almost all of these houses have been built in the last 6 years[1].

[1] See figure 4 to see expansion of the town.

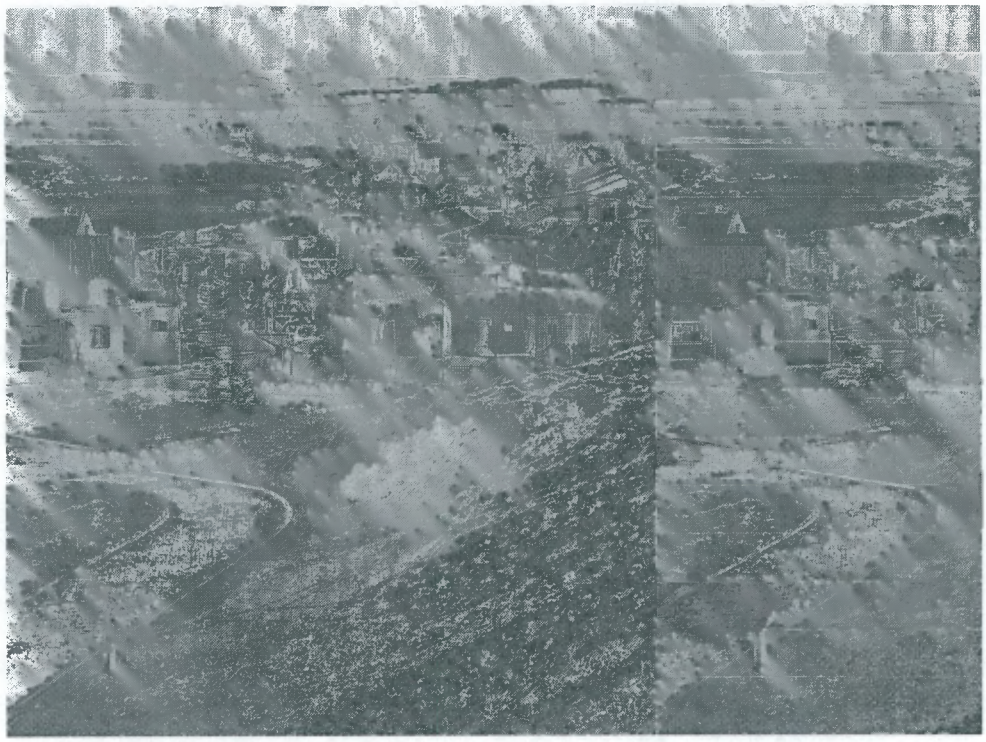

Figure 8: Paternoster (facing north)

2.3.3. St. Helena bay

Vasco Da Gama arrived in St. Helena Bay in 1497 in order to get fresh water for his ship. At the time the Khoi were the sole inhabitants of the bay. Developments in the bay first began in the 18th century with a halfway house for ships and a military post (Saldanha Bay Municipality, 2003). After World War 2 fish and lobster factories were set up in the bay. It was these factories that provided the economic backbone upon which the town was built. At present, St. Helena Bay is one of the major fish processing centres in South Africa. This is primarily due to St. Helena Bay's close proximity to the abundant fish stocks off the west coast. Figure 9 shows the main harbour and fish processing plant at St. Helena Bay.

Figure 9: Harbour in St. Helena Bay

The town has also developed into a popular tourist destination. There have been a number of middle-to-high income housing developments at Britannia Bay, which is the Bay immediately adjacent to St. Helena Bay. These developments have strengthened the tourism of the region.

The population of St. Helena Bay is roughly 9170 people, making it the third largest town in the Municipality after Saldanha and Vredenburg. Sixty seven percent of the population of St. Helena Bay is Coloured, 25 percent is Black and 8 percent is White. As was the case in Paternoster, the population of St. Helena Bay is predominantly Afrikaans speaking.

This chapter has stressed the point that there is intense pressure for towns on the West Coast to grow and become increasingly developed. This growth and development, if unchecked, could have significant negative impacts on the local environments.

Chapter 3 will describe the legislation and policy that has been formed with the purpose of ensuring that growth takes place in a sustainable manner and that it has as many positive impacts as possible.

Chapter 3: Legislation and Policy

The coastal zone (alternatively referred to as 'the coast') incorporates a large range of human activities and is therefore deemed a high priority area with regard to the management of human activities and the resources on which these activities rely. The coast is not only important with regard to natural resources, but also supplies a source of culture, aesthetics, education and spirituality (DEAT, 2000). The *Coastal Zone Policy for the Western Cape* states that "[i]t is generally believed that the spread of urban and resort development on the coastline, without due consideration to appropriate planning and environmental constraints, destroys the unique qualities of the natural environment and produces inappropriate man-made places" (DEADP, 2003, Pg. 37). It is therefore vital that effective management of the coast takes place.

When defining the coast, the White Paper for sustainable coastal development in South Africa considers coastal boundaries extending as far landward and seaward as required for effective coastal management (DEAT, 2000). Thus, effective coastal management includes consideration of the regions and activities inland that either directly or indirectly affect it. Coastal management therefore takes into account all factors that may influence the coastal environment, such as job creation, setback lines for property development and pollution (DEAT, 2000). Coastal management does not only consider natural resource management, but also the coordination of activities that may influence the coastal region (DEAT, 2000). Coastal management therefore includes biophysical, economic, social and institutional considerations. Whereas in the past coastal management was focused on resources ('biocentric' view), it is now people-centered becoming 'ecocentric' in that it considers the diversity, health and productivity of the entire system as being essential for human well-being.

As has already been outlined, development on the West Coast is taking place at an extremely rapid pace. As a result of this, it is essential that coastal management takes place. This requires well thought-out legislation and policy, as well as the efficient transfer of legislation and policy into practice. Chapter 3 will outline the institutional and legal context of coastal zone development in order to determine what provisions

are in place for the implementation of effective coastal management. In doing so, it will also provide an outline of legislation and policy against which actual practice can be compared.

3.1. Institutional and legal context of coastal zone development

3.1.1. Institutional powers and duties

National government: the coastal management division of the Department of Environmental Affairs and Tourism are responsible for policy formation, environmental education, the co-ordination of management activities and international conventions, protocols and agreements (DEAT, 2000). The national government has a predominantly advisory role and has a limited influence with regard to coastal management.

Provincial government: the majority of coastal management is carried out by Provincial authorities. They are involved, *inter alia,* in provincial planning, the provision of provincial recreational facilities, provincial roads, traffic management and environmental conservation. It is also members of the provincial government that make the decisions regarding the approval or disapproval of development applications.

Local government: local government is mainly involved in building regulations, local tourism, municipal planning, local amenities and public spaces. The extent to which local government involvement takes place is strongly influenced by its capacity to carry out these functions.

3.1.2. Legislation

This section will highlight the legislation most relevant to coastal management.

The Constitution Act (108 of 1996): The Constitution of South Africa provides the framework upon which the legislation affecting coastal management is based. Section 24 of the constitution states that "everyone has the right to an environment that is not harmful to their health or well-being and the right to have the environment protected for the benefit of present and future generations".

Sea-Shore Act (21 of 1935): this very old act was extremely important to the development of institutional arrangements for the South African Coast. It is founded on Roman Dutch Law, which is based on the concept that ownership of the sea and the sea shore is entrusted to the Government for the use and benefit of public. This act safeguards the public's rights to the sea and the sea shore but is often not consistent with more recent environmental and planning legislation.

Environment Conservation Act (73 of 1989): this act provided the initial emphasis on environmental conservation in South Africa. Many of its provisions have been repealed by the more recent National Environmental Management Act (107 of 1998), but some of its provisions are still in place.

National Environmental Management Act (107 of 1998): this act is aimed at ensuring that Constitutionally defined environmental rights are protected (DEAT, 2000). It was this act that provided the framework upon which the *White Paper for Sustainable Coastal Development in South Africa,* and eventually the various provincial policies for coastal development, were based. The

National Environmental Management Act (NEMA) provides the Department of Environmental Affairs and Tourism with custodianship of the environment.

Marine Living Resources Act (18 of 1998): this Act is aimed at ensuring the sustainable utilization of marine living resources in South Africa. It provides the minister of DEAT with the power to allocate resource quotas based on "scientifically based and publicly acceptable operational management procedures" (DEAT, 2000, Pg. 31). It also emphasizes the importance of fair and equitable access to resources.

Development Facilitation Act (67 of 1995) and provincial planning legislation: this legislation is aimed at generating general principles for land development in South Africa. Development programmes and projects are seen as a priority and provisions are made that allow for them to be developed and implemented more easily (DEAT, 2000).

Western Cape Planning and Development Act (Act 7 of 1999): It is important that the coastal zone policies for the various provinces are implemented 'on the ground', with the local government being an especially important agency. These policies must therefore be in accordance with the Western Cape Planning and Development Act (Act 7 of 1999).

3.1.3. Environmental Impact Assessments

According to South African law, Environmental Impact Assessments (EIA's) must be conducted on projects that fall into certain categories or 'listed activities'.

Environmental Impact Assessments (EIA's) are studies investigating the impacts of human activities and actions, as well as evaluating possible alternatives (Parry-Davies *et al*, 2002). They are planning tools aimed at informing decision-makers on how growth and development should take place in a sustainable manner.

The 'listed activities' were first identified in Schedule 21 of the Environment Conservation Act of 1989 with amendments up to 1997. Until 1997, these listed activities were rudimental and broad. These activities were: land use and transformation; water use and disposal; resource removal, including natural living resources; resource renewal; agricultural processes; industrial processes; transportation; energy generation and distribution; waste and sewage disposal; chemical treatment and recreation. In September 1997 the government gazetted amended regulations that included a much more detailed list of activities that require EIA's.

The EIA process has come under criticism in recent years for a number of reasons: There is a lack of clarity concerning the EIA regulations. This has resulted in the inconsistent application of the laws by the relevant authorities (DEAT, 2006a). Too many small scale and insignificant activities are subjected to the EIA process. This places a strain on already limited time and monetary constraints. The submission of Environmental Impact Assessments to the relevant authorities is a lengthy and inflexible process, which has far too many 'authority stops' and 'decision points' (DEAT, 2006a). This once again contributed to time and monetary constraints. Public participation is an extremely important component of the EIA process as it provides interested and affected parties with influence regarding decisions that may affect them. The 1997 regulations do not provide adequate provisions for public participation (DEAT, 2006a). The EIA process is exhaustive, time consuming and has high costs attached. This effort is useless if decisions made are not actually enforced as is often the case in South Africa. South Africa has adequate legislation but it is frequently ineffective if it is not actually enforced. Another issue is that EIA's are supposed to inform decisions, but are often used as a means of justifying plans that have already been made (DEAT, 2006).

As a result of the above criticisms of the 1989 and 1997 environmental impact assessment legislation, the South African government gazetted new EIA regulations under the National Environmental Management Act (Act 107 of 1998) in April 2006,

which came into effect on the 1st of July 2006. These new regulations are aimed at making the EIA process more cost efficient, streamlined and flexible.

A major problem in South Africa, which has been noted in this study, is that many of the developments being implemented at present and in recent years were approved before 1997, when the 'listed activities' became far more detailed. As a result of this, many of these developments have had no impact studies conducted on them and there is little that can be done in order to prevent their implementation. A lack of impact assessments for developments along the West Coast has resulted in there being a shortage of information available on their actual impacts. This study is a form of impact assessment that is aimed at determining what these impacts are.

Growth in many of the towns on the West Coast has often not been subject to EIA's in the past because individual homes are not generally regarded as having significant impacts. Although this is generally the case, the cumulative impacts of all of these individual structures can often be significant (cumulative impacts will be outlined and described in Chapter 4).

3.2. Coastal development policy

3.2.1. White Paper for Sustainable Coastal Development in South Africa

In 2000, a *White Paper for Sustainable Coastal Development in South Africa* was developed by the chief directorate for Marine and Coastal Management of the Department of Environmental Affairs and Tourism. This paper outlined a policy for coastal development in South Africa and was founded on 10 principles. These principles are as follows (DEAT, 2000):

- *National asset*: the coastal zone should be viewed as a national asset to which the public has rights.

- *Economic development*: coastal management should be aimed at promoting economic development, which will meet society's needs and promote well-being.
- *Social equity*: all people should have access to coastal resources. This includes future generations and therefore incorporates the concept of sustainability.
- *Ecological integrity*: the diversity, health and productivity of coastal ecosystems must be preserved. This principle also involves the rehabilitation of key coastal ecosystems.
- *Holism*: coastal management must take into account the interrelationships between coastal users and ecosystems, and between the land, sea and air.
- *Risk aversion and precaution*: coastal management must prevent activities that increase risk. The 'Precautionary Principle' must therefore be adopted whereby risk is avoided through a "cautious approach to development and environmental management (DEAT 2000. pg. 154).
- *Accountability and responsibility*: responsibility must be shared. People whose actions have negative impacts on the coastal environment (biophysical and socio-economic) must be held accountable for these actions.
- *Duty of care*: all people and organizations influencing the coastal zone must act with "due care" in order to avoid negative impacts.
- *Integration and participation*: coastal management must be participatory, inclusive and transparent.
- *Co-operative governance*: this principle infers that there must be partnerships between the various spheres of the government and the private sector and civil society. Empowerment and co-responsibility are therefore central to this principle.

The White Paper outlines 5 central themes with regard to the implementation of sustainable costal development in South Africa.

- *Governance and capacity building*: this theme is centered upon the issues of partnership and awareness.

- *Our national asset*: the public must have access to the sea and the sea shore, but this access must be controlled. The state is the legal custodian of natural, historical, cultural and traditional coastal resources and as such must ensure equitable access to opportunities and benefits.
- *Coastal planning and development*: a balance between the built, rural and wilderness coastal areas must be achieved. Coastal development must be aimed at ensuring the "diversity, vitality and long-term viability of coastal economies and activities" (DEAT, 2000, pg. 49). These developments must also be in "harmony with local and regional aesthetic, amenity, biophysical and cultural opportunities and constraints" (DEAT, 2000 pg. 50).
- *Natural resource management*: biodiversity, ecosystem health and productivity are extremely important when trying to achieve sustainable coastal development.
- *Pollution Control and Waste Management*: pollution prevention and waste minimization are essential to ecosystem and human health.

The *White Paper for Sustainable Coastal Development in South Africa* formed the basis upon which much of the coastal zone policy in South Africa is based. Section 3.2.2. will provide an outline of the *Coastal Zone Policy for the Western Cape*, which was developed based on the principles and themes described in the *White Paper for Sustainable Coastal Development in South Africa.*

3.2.2. Coastal Zone Policy for the Western Cape

The coastal zone of the West Coast (and indeed the entire Western Cape) is being developed very rapidly. This rapid development has had numerous impacts upon the coastal region of the Western Cape. These impacts include wide-spread urban sprawl with growing numbers of buildings of different styles being created accompanied by degradation of the natural environment and unsustainable resource use through land alienation (DEADP, 2003). Other resources are being severely stressed. As a result of

this, the need for policies and strategies aimed at ensuring the sustainability of human activities and the conservation of the environment has been realized.

The *Coastal Zone Policy for the Western Cape* was developed in order to create a planning, management and development policy framework for the Western Cape. This framework was the first step in the development of a policy ensuring sustainability and conservation in the region.

This policy emphasises the value of the 'core' of the coastal environment, which is created by unique geographic locations and the importance placed by people on these 'places' (DEADP, 2003). The policy reflects the belief that there is a human need for a love and understanding of 'place' by inhabitants (DEADP, 2003). The policy recognises that environmental health is essential for sustainable development and that it is vitally important to balance "human well-being, economic efficiency and environmental integrity" (DEADP, 2003. Pg. 2). The key issues in this policy are: the conservation of biodiversity, the rehabilitation of ecosystems and habitats, the sustainable use of natural resources, the mitigation of developmental impacts and retention of 'the placeness of place'.

Due to the possible adverse effects of uncontrolled coastal development, it is necessary to implement appropriate planning and developmental constraints. Without these constraints, developments will spread rapidly and will lead to increased strain on the already limited service provision in the region. Due to the value of coastal developments, growth generally takes place in a linear fashion along the coastline. This linear development is not sustainable and can "often destroy ecological corridors that link the mountains and the sea and, consequently, prohibit the proper functioning of coastal ecosystems" (DEADP, 2003. pg 37).

Much of the residential development occurring in the coastal zone is built for seasonal visitors who visit the region for holidays. These seasonal incursions make it very

difficult to supply services such as water and sewerage as there is an enormous increase in population and activity during holiday seasons.

Stringent control must therefore be placed on developments in the region. The following factors are relevant when evaluating and assessing development applications (DEADP, 2003b):

- Natural and/or unique resources.
- The prevention urban sprawl.
- The strengthening existing nodes.
- Cumulative impacts.

The *Coastal Zone policy for the Western Cape* incorporates the principle of "critical regionalism" when conducting planning for coastal development. This principle is based on the idea that development and design should reflect a "sense of limits" (DEADP, 2003). Critical regionalism is based on the following 5 guiding principles (DEADP, 2003):

Recognition of sense of place: This is the "degree to which a place can be clearly perceived and mentally differentiated and structured in time and space by its residents, and the degree to which that mental structure connects with their values and concepts" (Lynch, 1998 in DEADP, 2003). It therefore incorporates the identity, character, structure, local climate, topography, vegetation, building materials and local authenticity of a region. New developments should therefore reflect this local "sense of place" rather than alter it.

Recognition of sense of history: Many locations have a unique "sense of history" created by its past, its traditions and its values. When conducting planning for regions such as these, it is important to note their 'sense of history' and ensure that it is not negatively impacted. The West Coast has a very rich sense of history and as such, must be carefully looked after.

Recognition of sense of craft: The character of settlements is often created by unique architecture and structure, which in turn are created by prevailing traditions within settlements. This 'sense of craft' is often the result of the history of a people combined with functionality.

Recognition of sense of nature: It is very important that the natural environment is reflected in developments as this can contribute greatly to its aesthetics. Dominant forces of nature can greatly impede developments and should be taken into account. When trying to conserve a 'sense of nature' one should minimize the use of water, energy, land and materials; promote re-use and recycling, promote the use of renewable resources, minimize pollution, attempt to create a healthy environment, try to improve diversity and minimize damage to sensitive landscapes (DEADP, 2003).

Recognition of sense of limits: Coastal developments need physical and temporal boundaries. By creating these boundaries, urban sprawl and uncontrolled development can be ensured.

The *Coastal Zone Policy for the Western Cape* outlines a number of policies specific to certain aspects of developments. These policies are meant to be used as a 'guideline series' directing development and growth in the region. These policies are relatively detailed and extensive and could not be recounted in their entirety in this paper. What follows is a summation of those policies particularly relevant to this study.

a) Policies for environmental design and development:

New developments should adopt a place specific planning and design approach. This entails new developments adhering to architectural and format styles that reflect the existing developments in the area. In order to do this, developers should take note of architectural vernacular and design, materials used, the maintenance of space, fencing, the height of units and landscaping. New constructions should also blend in with the natural environment as much as possible. They should therefore contribute to natural and cultural diversity, as well as maintain the natural aesthetic qualities of the settlement.

New developments should be concentrated into 'compact nodes', which are surrounded by ecological corridors. This mitigates the negative impacts of new developments on the overall functioning of the ecosystem. Resort developments should be clustered and have low profiles in order to reduce their spatial impacts as well as their visual impacts. These developments should also have clearly defined boundaries, as this will reduce their impacts on their surroundings. They should also be limited, as far as possible, to disturbed areas such as old farms.

There are a number of principles for environmental design and development that relate directly to landscaping. The use of vegetation should be limited, as far as possible, to indigenous plants. These indigenous plants should not only be used for aesthetic purposes, but can also have functions such as stabilizing mobile sand and contributing to natural ecosystems. Earthworks such as berms and mounds should also created as they can create shelter from the wind, which definitely needs consideration on the very windy West Coast, and screen buildings.

Roads and power lines should be aligned to the flow of the topography in order to reduce their visual impacts. They should preferably be constructed perpendicular to the coast, as this minimizes their impacts on coastal processes and ecosystems. Power lines should be underground within the coastal developments in order to reduce their visual impacts. Road signs should avoid the skyline and preferably be against backdrops in order to reduce their visual impacts. Parking lots should be small, interspersed and screened rather that expansive and highly visible. The construction of roads and power lines should be carefully controlled and limited as much as possible.

It is very important that natural areas that are essential to ecosystem functioning (e.g. corridors and linkages) are conserved and rehabilitated where necessary. Restoration and rehabilitation plans should be created, and developers should be able to provide financial assurances of rehabilitation and management.

b) Policies concerning development scale and density:

The scale of developments should be influenced by the carrying capacity of the region. The carrying capacity is determined by a combination of factors. The sensitivity or rarity of the site will influence the scale and density of developments. The aesthetic quality of the site must also be taken into account. The availability of resources such as water will be highly influential with regard to carrying capacity. The availability of water is a serious issue on the West Coast and is therefore a very important consideration. The availability of municipal infrastructure and amenities will also be limiting with regard to carrying capacity. The disposal of sewerage and stormwater are important when dealing with the scale and density of new developments.

The scale and density of a development should be influenced by the guiding principle mentioned earlier known as 'Sense of Place'. The scale and density of a development are very influential with regard to maintaining a sense of place.

c) Policies concerning existing development rights:

Having existing development rights does not grant developers absolute and unlimited rights in terms of format and scale. Development rights are subject to legislation and environmental limitations and new developments must conform to the Requirements of SDF's.

d) *Policies concerning access to seashore:*

All South Africans have rights to access the area below high-level mark although some areas may be deemed too sensitive for recreational activities. Access to the sea shore must be provided to those people with historic and traditional rights. Despite these access rights, levels of activity on the sea shore should be influenced by its ecological and social carrying capacity.

e) *Policies concerning the promotion of economic development:*

New developments should provide local communities with access to economic benefits and opportunities associated with the coastal zone. It is important that new developments promote economic activities that ensure sustainable economic growth and economic independence of settlements. Access to resources must be equitable and local communities must have access to the benefits derived from the projects. These benefits could include the provision of jobs, an increase in business, a stronger economy and better social services.

The coastal economy should be as diverse as possible as should not only rely on consumptive marine resources. The promotion of a diverse coastal economy increases its stability, thereby increasing its sustainability. Tourism is becoming increasingly important along the West Coast and is benefiting the economy a great deal.

f) *Policy concerning community participation:*

Local communities should be involved in the making of decisions concerning the coastal zone and the sustainable use of resources.

g) *Policies concerning the protection of natural and cultural resources:*

Sites with significant aesthetic, educational, scientific or spiritual value should be protected. The conservation of biodiversity is essential and indigenous fauna and flora should be protected as much as possible. Natural habitats containing rare and endangered species should be conserved or rehabilitated if necessary. Alien species should be removed. It is also important to identify and protect examples of functional ecosystems as well as ecological corridors. This ensures the continued functioning of the ecosystem, thereby contributing to sustainability.

h) Policies concerning the protection of ecosystems:

Although parts of the natural environment will be negatively impacted by new developments, attempts should be made to ensure that natural ecosystem processes are not affected. New developments must be prohibited on:

a. Geologically unstable sites.
b. Sites with steep slopes (greater that 1:4).
c. Sites within or near the littoral active zone.
d. Beaches and rocky shores.
e. Sites below high level mark.

The purpose of these regulations and policies are to ensure that human activities do not negatively affect the environment and that they are as advantageous as possible. This study is aimed at investigating the positive and negative effects of growth and development growth on the West Coast. In order determine and understand the effects of human activities, it is important to understand what environmental effects (and impacts) are and how they can be identified. Chapter 4 will provide an outline of what environmental impacts are and will then provide a description of biophysical (section 4.1), social (section 4.2) and economic impacts (section 4.3).

Chapter 4: Environmental impacts

A common misconception is that the environment incorporates only natural (i.e. biological and physical) factors. According to the Department of Environmental Affairs and Tourism "a holistic definition of the term 'environment' is adopted, that includes biophysical, social and economic components, as well as the connections within and between these components" (DEAT, 2004. pg. 4). The 'environment' therefore incorporates a wide variety of factors, all of which influence people either directly or indirectly.

The environment is continually changing both naturally and through changes in man's actions. This change is to be expected and must always be planned for. Problems arise when the rate of change becomes too rapid and the resultant negative impacts of this change become too significant. Although rapid change can have, and often does have, negative impacts, one must not discount the possible positive impacts of change.

Due to rapidly increasing populations and high consumption, human impacts have become increasingly severe in recent years (Munn, 1975). Mankind's high level of control over the environment often results in clashes between human economic goals and the environment. It must be noted that development is necessary when trying to improve social and economic well-being. What is important is that this development has as few negative impacts and as many positive impacts upon the environment as possible and that it does not involve "....growth in throughput of matter and energy beyond regenerative and absorptive capacities" (Goodland & Daly, 1996. pg. 1002).

Sustainable development has become an extremely important consideration in recent years as a result of the possible irreversible negative effects of development. Sustainable development is development whereby the "needs of present generations should be met without the ability of future generations to meet their own needs, being compromised" (DEADP, 2005a). Sustainable development is therefore essential, the general aims of which include:

- Ensuring a steady environmental state in which sustained yield is guaranteed.
- Ensuring that resource flows do not exceed stock (economies of flow vs. economies of stock).
- Inter-generational equity (i.e. 'stewardship'): This concept involves resource utilisation that does not defer costs to the future.
- Intra-generational equity: Urgent needs at present must be met while still trying to achieve progressing longer-term sustainable solutions.
- Social justice: This involves fair and equitable resource control and allocation.

It is essential that efficient 'management' takes place in order to ensure that development takes place in a sustainable manner. In this case 'management' refers to "the processes of initiating, planning, implementing, controlling and closing an activity, including the associated responsibilities and accountabilities. The classical management cycle (i.e. plan, do, check and act) can also be applied within each stage of the typical activity life cycle." (DEAT, 2004. pg. 9). Impact assessment is an important management tool used to ensure that developments have as few negative impacts and are as beneficial as possible.

Impact assessments are the process whereby the consequences of an action (in progress or proposed) are predicted (Vanclay & Bronstein, 1996). When conducting impact assessments, the attention given to environmental conditions varies according to the context of a proposed action (Rau & Wooten, 1980). The main attention is allocated to those factors most affected by human actions i.e. the most significant impacts. These actions can include legislative proposals, policies, programmes, projects and operational procedures (Munn, 1975). They can have a wide range of environmental effects. An environmental effect is defined by Munn (1975. pg. 21) "as a process (such as erosion of soil, the dispersion of pollutants, the displacement of persons) that is set in motion or accelerated by man's actions". The significance of these effects varies due to the context of the action. Evaluation of significance would involve weighing impacts against such criteria as:

- **Extent or scale** (affect many people over a large area).
- **Severity/intensity.**
- **Duration** (long-term).
- Degree of **certainty.**
- Impact on **health** and **security.**
- Potential for **cumulative effects.**
- Potential to generate **conflict** (acceptability).
- Contrary to **legislation** and/or official policies.
- Accordance with principles of **equity** (social justice).
- Accordance with principles of **efficiency.**
- Potential for **mitigation** and/or **reversibility.**

These significant effects can be both positive and negative and can vary according to the environment or environmental elements being affected. Examples of actions with significant effects include actions that result in the relocation of people, actions that have adverse effects on important natural, social or economic resources, and actions that will result in changes regarding the health and safety of people (Rau & Wooten, 1980).

Impacts can generally be categorised as being primary (direct) or secondary (indirect or induced). Primary impacts are those that can be directly attributed to a proposed action (Rau & Wooten, 1980). An example of a primary impact would be the removal of vegetation to be replaced by a structure of some sort. Secondary impacts are secondary or induced changes and are created through linkages, which can be either newly developed (induced) or "old" (indirect) (Rau & Wooten, 1980). For example, a construction could result in changes in patterns of land use, changes in population density, related effects of air and water quality and unplanned changes in growth rates (Rau & Wooten, 1980). A biophysical example of secondary impacts would be the removal of vegetation resulting in increased erosion, which may cause sedimentation in streams, which would in turn impact upon the aquatic ecosystems within these streams (Rau & Wooten, 1980). Secondary impacts can be more influential than

primary impacts in that multiple linkages can create multiple effects and are often overlooked due to the complexity in their identification.

Of importance to this study are the cumulative impacts of large numbers of small-scale developments. Cumulative impacts are created when the incremental impacts of an action are added to the impacts of other actions. The impacts may be minor on their own, but when added together they may produce a significant cumulative impact (Canter & Sadler, 1997).

4.1. Biophysical impacts

When investigating biophysical impacts, the ecological impacts of human activities are explored. Ecological sciences are aimed at studying the interrelationship between organisms and their surroundings. Ecological studies are therefore very important in the impact assessment process as they can be used to predict the impacts of human activities on valued ecosystem components (Treweek, 1996).

In order to determine the ecological impacts of an action, the conditions prior to the action must be investigated (Treweek, 1996). Valued ecosystem components and key biological processes should be identified in terms of their economic importance, their protected status, their rarity, their sensitivity to specific impacts and their importance to other species in terms of survival (Treweek, 1996). Once conditions prior to development have been identified, the impacts of the development can be identified and gauged, as new conditions will have a basis for comparison.

4.2. Social impacts

Impact assessments are intended to investigate all aspects of the environment, but often fall short with regard to the social and cultural impacts of human activities. With increasing concern for social impacts over recent years, came the development of Social Impact Assessment within the impact assessment framework. Social Impact

Assessment (SIA) is a process whereby the social and cultural consequences of projects, programs and policies are identified and evaluated (Burdge, 1995). SIA's are therefore utilized in order to determine whether a policy, plan or project benefits or undermines the well-being of a society or community (or sub-groups thereof) both now and in the future (Burdge & Vanclay, 1996). Social consequences could include changes to people's way of life, culture, work, play, relationships, political systems, health and well-being, ability to meet needs, fears and aspirations, personal and property rights, as well as changes to people's norms, values and beliefs (Burdge, 1995). SIA is not concerned with '***the*** answer' but is rather aimed at attempting to expose problems and to enable people to prepare for, and to cope with, change.

There are a number of reasons for the difficulties experienced when trying to conduct social impact assessments (Burdge and Vanclay, 1996). Impact assessments are traditionally located within the natural sciences. It is therefore relatively difficult to apply social science theory to impact assessments due to the difficulties that lie in communicating between the very different disciplines. Making predictions about human responses and impacts on communities can be very difficult due to the complexity of human systems. There are many methods used for assessing social impacts and many of them are complex. Consultants often do not have sufficient social science theoretical training and experience to conduct SIA's. Due to the complexity of human systems and reactions, it can be very difficult to validate SIA reports. There may also be differences in opinion regarding estimated social impacts. As a result of this it is very difficult to get "good information" and to benefit from the experiences of others. Due to the complexity of social systems, it is very difficult to address the impacts of multiple projects. Social impact assessment should be seen as a process with monitoring and mitigation being intrinsic rather than as a single event as it commonly is.

Humans are often not regarded as being part of the environment and are not seen to "count" (Burdge & Vanclay, 1996). As a result of this, there is often a failure to see the need for SIA's. SIA requires the assessment of qualitative information as well as

quantitative data. Despite this, SIA's often only utilise "primitive" demographic information ignoring important qualitative data such as human perceptions, attitudes, norms and values. If one is not familiar with SIA, it can be very difficult to understand the reports. This can result in decisions being made without a full understanding of the relevant issues or in the SIA being disregarded. Decision-makers expect clear statements of the impacts of actions. But SIA's often do not often make explicit statements of social impacts, but rather expose problems and allow people to prepare for change. This can result in decision-makers disregarding SIA's, which detracts from the overall Environmental Impact Assessment. Society is heterogeneous and as a result of this impacts may vary a great deal. A certain action may benefit some whilst disadvantaging others. This heterogeneity increases the overall complexity of the study.

4.3. Economic impacts

Human actions are often driven by economic concerns; they therefore generally have many economic impacts. Economic impact assessment is a process to estimate such parameters as changes in employment, income and levels of business activity. As with other forms of impact assessment, investigating economic impacts involves a comparison of economic conditions prior to development with those resulting from development.

Humans have the ability greatly to influence and alter the environment through their actions, with both positive and negative consequences. In recent years, considerable attention has been given to the potential impacts of growth and development on communities. Economic growth is generally viewed as being good for communities because it is thought to provide new jobs, increase income for local residents, create a broader tax base and enhance local amenities (Wathern, 1990). However it needs be emphasised that economic growth does not necessarily equate with development or sustainability.

Despite these benefits, communities are becoming increasingly aware of the negative consequences of growth. Negative impacts include increased costs for necessary public services and infrastructure, traffic congestion, consumption of local natural resources, loss of open space and unique cultural attributes and degradation of the natural environment (Wathern, 1990). Development decisions are also often made without an adequate knowledge of the consequences of growth on communities.

Chapter 5: Methodology

This section will outline this study's research design as well as the research methodology developed for its purpose.

Babbie and Mouton (1998) explained that there should always be logic behind the research process. In this logic one begins with an idea of a potential area of investigation. This idea then leads on to the development of a research problem, in other words, questions that will be asked in a particular study. Once the research problem has been outlined, the process of research design can begin. This is followed by the actual research process, then by analysis of evidence and eventually the presentation of research results.

In a scientific enquiry, before one can make observations and conduct an analysis thereof, one needs to develop a plan. Research design involves the planning of a scientific enquiry. In doing this, one determines what type of study will best answer the questions posed (Babbie & Mouton, 1998). The design process includes two very important steps. The first step is to clearly determine what the study is aimed at finding out (the *what*?). This study has its foundation in two ideas:

1. The west coast of South Africa is undergoing extremely rapid levels of growth at the moment. This study is aimed at determining the biophysical, social and economic effects of growth of this nature on coastal towns and their surrounding areas.

2. A major issue in the environmental management field is a lack of impact assessment follow-up after developments have been implemented. *Post hoc* impact assessment involves conducting follow-up studies on the impacts of developments after they have been implemented.

The second step is determining what the best way to achieve these aims is (the *how*?). One needs to know what kind of study is required and what kind of results does one want to obtain (Babbie & Mouton, 1998). It is also important to identify what kind of evidence is required in order to find adequate answers to the research question.

According to Babbie and Mouton (1998), there are three common purposes of research. These purposes are not mutually exclusive and may overlap within individual studies. The first is exploration in which one aims to gain more insight and comprehension. With this purpose in mind, interviews are a useful tool (Babbie & Mouton, 1998). Exploration was a primary purpose of this study. The second was description, which involved describing situations and events. This involved making observations and describing these observations (Babbie & Mouton, 1998). Investigating the *post hoc* effects of developments involved description of this nature using a variety of information sources. The third common purpose of research, which was also applicable to this study, was explanation. This involved asking why certain events occurred and exploring causal relationships (Babbie & Mouton, 1998).

There are two basic types of data that can be obtained for a study of this nature (Babbie & Mouton, 1998). This study will rely on both of these forms. Primary data will be collected by the researcher and secondary data will be obtained from municipal documentation and various other case studies. The data collected was both quantitative and qualitative. This study was therefore an empirical study in which both primary and secondary, quantitative and qualitative sources were used in order to obtain information and numeric data.

Four "tools" or procedures were used in order to achieve the aims of this study. These were:

- Face-to-face interviews.
- Case study research.
- Personal observations.
- Statistical analysis.

5.1. Interviews

This study required that information regarding developmental impacts was obtained from a variety of people. This did not involve investigating the characteristics or actions of these people, but rather their orientations (attitudes, beliefs and perceptions) in order to draw out information about the nature and significance of impacts.

Structured face-to-face interviews involve "one person obtaining information from another during a structured conversation based on a prearranged set of questions" (Babbie & Mouton, 1998, pg. 249). Face-to-face interviews with individuals were decided to be the most appropriate method of obtaining information relevant to this study. This decision was based on a number of advantages associated with this methodology. Low levels of literacy in South Africa means that the personal completion of questionnaires by individual respondents is not ideal. Verbal communication is better situated to these circumstances particularly when a degree of explanation, clarification or qualification is required. Many of the people interviewed in this study are subsistence fishers and their levels of literacy were not particularly high. Face-to-face interviews are known to ensure higher response rates (Babbie & Mouton, 1998). By personally communicating with someone, one can decrease the number of "don't knows" and "no answers" (Babbie & Mouton, 1998). This is because the interviewer can probe for answers. This methodology also allows the interviewer to vary his/her questions in such a way that increased understanding is achieved and that answers are as relevant as possible. It is important with interviews of this nature to prevent the interviewer from asking leading questions that may influence the answers of the respondents. The interviewer must retain his/her objectivity.

This study was aimed at being descriptive and explorative. As a result, selection of respondents rather than sampling was utilised. Rather than sampling a proportion of the population, members of the population were selected in such a way that maximum

access to the range and depth of institutionalized and experiential knowledge available was achieved[1]. This was not a process of public participation, but rather a form of *post hoc* scoping (see section 5.2.).

Although the selecting was at times random, it was primarily purposive or judgmental selecting. This form of selecting is "based on [the] judgement and purpose of the study" (Babbie & Mouton, 1998, pg. 166). Samples were therefore chosen based on the researcher's knowledge of the population, its dynamics and the research aims of the study. 'Snowball' or 'network' selecting also took place, which relied on getting advice from 'first-order' respondents on whom else to interview as second- and third-order respondents in a branching network (Babbie & Mouton, 1998). These selections were used for the identification of relevant municipal workers and key representatives from the communities. This form of selection relied on word of mouth and was rigorously implemented so as to prevent bias with regard to the chosen samples.

It was important that all parties interested and affected by the developments were identified. Interested and affected parties included:

- *Municipal workers*: Municipal official will have point of reference with which they can compare conditions at present with those of the study baseline year and will be able to identify both positive and negative impacts. They would also provide information from an institutional perspective, thereby providing information that individuals on the ground are possibly unaware of.
- *Developers*: Provide insight into the positive social and economic benefits of new developments.
- *Residents of the area*: Home owners in the area experienced the highest levels of exposure to the positive and negative social and economic impacts of these developments.

[1] No attempt was made to employ parametric sampling techniques so statistic inferences reflecting the universe of the population were not possible.

Appendix 1 contains the structured questionnaire schedule presented to members of the communities of the towns. Appendix 2 contains the questionnaire that was applied to members of the Saldanha Bay Municipality. These two questionnaires are very similar, but differ in that the questionnaire used for the municipal workers was aimed at providing a broader view of the effects of change in the region.

The questionnaire used for the resident interviews was aimed at identifying effects specific to the towns in which the interviewees reside. This questionnaire was also aimed at identifying the characteristics of the town that appeal to, and those that are disliked by, the residents[1]. The question about the appeal of the towns was asked in order to determine what characteristics should be conserved. The local people place a value on these characteristics. Actions that negatively affect these attributes could then be regarded as significant. The identification of town characteristics that are disliked by the locals provides information on what issues require mitigation initiatives.

The questions in both questionnaires concerning the economy, the people benefiting and the environment are aimed at providing information regarding the people's perceptions of the positive and negative effects of the growth and developments in the region[2]. The results from the residents were intended to be more subjective as *post hoc* scoping requires the identification of the effects and issues that are deemed important to them. The results from the municipal workers were intended to have a broader context and were intended to provide a more objective view of the effects of change.

5.2. *Post hoc scoping*

Scoping involves the identification of the range of issues that are identified as impacts of change on individuals or social groups (Beanlands, 1988). It is therefore used as a

[1] Questions 5 and 6 of residents' questionnaire, Appendix 1.
[2] Questions 7 to 10 of residents' questionnaire and questions 5 to 9 of municipal workers' questionnaire.

method of focussing impact assessments on a number of specific problems. In order to conduct scoping exercises, those conducting EIA's should investigate information relevant to the assessment. It is also important to involve the input of other agencies involved and to consult the interested and affected public (Beanlands, 1988). Interested and affected parties include those people directly and indirectly affected by human activities. Those that are affected by specific human activities "have a major role in identifying issues and ensuring that local knowledge and values are understood" (DEAT, 2002. pg. 4).

Identifying the concerns of the general public is an exceptionally difficult process due to the unpredictability of human nature and the ever-changing social values adopted by people. Social scoping can therefore be a very useful means of identifying factors of importance to them at a particular moment in time (Beanlands, 1988). Social scoping is also important with regard to the biological components of the environment as it can reveal members of society's perceptions with regard to the importance of a specific plant, animal or ecosystem (Beanlands, 1988). Social and economic values are major factors that should be considered when identifying what ecosystem components should be investigated in the EIA process; although ecological importance, sensitivity and rarity are also important (Beanlands, 1988). Scoping is therefore an exercise which is aimed at identifying the "attributes of components of the environment for which there is public (including professional) concern" (Beanlands & Duinker, 1983).

In summary and as emphasis, this study is not aimed at providing an in-depth study of all of the individual impacts of the new developments contributing to the rapid rate and scale of growth along the West Coast. It is rather a form of post-development "scoping" during which the effects of a development are identified after it has been implemented. The term 'effects' is used in this study rather than 'impacts' as it is in no way a full specialist study but rather a means of identifying those issues particularly relevant to interested and affected parties. Thereafter, in a routine environmental assessment process, it would be incumbent on the environmental

assessor (or scoping sub-contractor) to screen the range of impacts identified against selected criteria in order to establish those that would constitute significant impacts and that would engage the minds of authorities tasked to decide whether or not to permit a development and/or whether conditions should be specified in the record of decision. In effect, as an analogy, scoping 'puts issues on the table while screening takes some of them off'.

According to Sippe (1999), "[e]nvironmental significance is an anthropocentric concept, which uses judgement and values to the same or greater extent than science-based criteria and standards. The degree of significance depends upon the nature (i.e. type, magnitude, intensity, etc.) of impacts and the importance communities place on them" (pg. 7). Time, man-power and money constraints prevented an exhaustive analysis of all of the effects identified in the interviews, but the more significant of these could be identified applying the following well-established criteria for evaluating significance[1]:

- **Extent or scale** (affect many people over a large area).
- **Severity/intensity.**
- **Duration** (long-term).
- Degree of **certainty.**
- Impact on **health** and **security.**
- Potential for **cumulative effects.**
- Potential to generate **conflict** (acceptability).
- Contrary to **legislation** and/or official policies.
- Accordance with principles of **equity** (social justice).
- Accordance with principles of **efficiency.**
- Potential for **mitigation** and/or **reversibility.**

[1] Adapted from: de Villiers Brownlie (Assocs), 2000.

5.3. Case study research

The case study approach is used when one wants to cover contextual conditions with regard to contemporary events (Yin, 2002). The time and financial constraints of this study prevented an original wide-ranging analysis of the effects of the rapid rate and scale of urban development on all towns along the West Coast. The case study approach was therefore adopted. By utilising the information gathered in other studies, the information gathered in this study could be supplemented enabling later, more generic conclusions concerning the potential effects of development along the coastal zone.

The primary case studies utilized in this study were the *Western Cape State of the Environment Report (2005)* and a few of the Environmental Impact Assessments that have been carried out in the region. The *Western Cape State of the Environment Report* provided information on the environmental problems throughout the Western Cape. Much of this information is applicable to the West Coast. A limited number of formal Environmental Impact Assessments (EIA) provided information on environmental conditions prior to the onset of rapid development. This baseline data on pre-development conditions was used as a basis against which contemporary conditions were compared. Although there was a lacuna of EIA's available in the region and many of them were of poor quality, this study did involve the extraction of a certain amount of information on these baseline conditions.

5.4. Field-work

The interviewing and observation process within the three towns took place from the 9th till the 12th of May 2006. During this period 64 people were interviewed.

Six members of the municipality were interviewed. They were from the Department of Electrotechnical Services, the Department of Housing, the Department of Civil Services and the Department of Spatial Planning and Development. The Strategic

Information Officer and a municipal clerk of the Saldanha Bay Municipality were also interviewed[1].

During this time 19 people from Langebaan, 18 people from Paternoster and 21 people from St. Helena Bay were interviewed. Tables 25 to 27 in Appendix 4 provide lists of the occupations of the people interviewed within each town as well as a breakdown of the number of people that fell within each occupation group. Amongst these people were a number of key members of the community and the head of the home-owners association of Langebaan. The contact details of these local residents are not available because a large proportion of the people interviewed fall within the low income bracket. They therefore do not have telephone numbers and lack solid residential addresses (often due to the poor naming of roads). A number of the residents that were interviewed also preferred to remain anonymous, as they felt threatened by the interview process. Table 2 below shows the number of people interviewed within each town that fall within the different income groups.

Table 2: Income group of the residents interviewed.

Town	Low income	Middle-to-high income	Retired
Langebaan	9	7	4
Paternoster	12	4	2
St. Helena Bay	13	9	0

Britannia Bay Developers is one of the largest companies involved in development along the West Coast. On the 26th March the owner of Britannia Bay Developers, Mr. Gert Joubert, was interviewed in order to gain his insights into the benefits of the housing developments along the West Coast.

[1] The names and contact details of these municipal workers can be found in Appendix 3.

Component B

Chapter 6: Results

This chapter will outline the results of the *post hoc* scoping exercises carried out in the three towns of interest. It will begin with the views of various members of the municipality. Following this will be a description of the issues and benefits raised by the members of the community interviewed. Section 6.3. will outline the views of the developer interviewed. The results section will reflect the range and tenor of the issues identified in the interviewing process. Chapter 7 (discussion) will screen these issues and discuss those deemed significant.

6.1. Municipal workers

As was mentioned in the methodology, a number of members of the Municipality were interviewed. Unlike the members of the community that were interviewed, these officials made observations concerning recent developments in the Municipality as a whole. The names and contact details of these municipal workers can be found in Appendix 3.

Table 3: Economic environment

Positive:	Negative:

• Harbour:
  o Brings in revenue.
  o Containers – decreases congestion in Cape Town.
  o Capital injection.
• Oil field.
  o Capital injection.
• Market expanding:
  o New jobs.
  o Financial feasibility for new businesses.
• Tourism.
• More money.
• Poverty alleviation.
• Wider tax base.
• Attracting investment.
	• Malls (e.g. Langebaan):
	  o Loss of business in small towns.
	• Increasing costs for municipality.
	  o Housing delivery.
	  o Infrastructure.
	  o Water.
	  o Sanitation.
	  o Schools.
	• Attracts unemployment.

Table 4: Social environment

Positive:	Negative:

• Income from tourism.
• Housing being built closer to work sites.
• All groups benefit, but mainly:
  o Labourers.
  o Building contractors.
  o Middle and upper income groups (can adapt).
	• Targeting middle-upper income groups:
	  o Few benefits for lower income groups.
	• Competition for work.
	• Tourism targets foreign people:
	  o Costs too high for local market.

o Developers. • Infrastructural improvements. • Increase in rural services. • More money invested in informal areas.	• Limited skills for new markets. o Outsiders benefiting. • No assistance with gaining skills. • Increase in social problems. • Population growth. • Value of homes increases. o Tax increases. • Increased traffic.

Table 5: Biophysical environment

Negative:
• Urban sprawl (boundaries need to be set up). • Smells. • Pollution – industry. • Burden on natural resources. • Ecosystem being damaged. • Natural movement patterns being impeded. • Loss of green space. • Increased traffic. • Large-scale industrial growth in the region.

6.2. Local community

6.2.1. Langebaan

Tables 6 to 9 summarize the range of issues identified by 19 local residents concerning the rapid scale of development in Langebaan.

Table 6: Attractions and detractions of Langebaan

Attractions:	Detractions
• Peaceful. • Friendly people. • More jobs.	• Little to do. • Getting too busy. • Getting too expensive

Table 7: Economic environment

Positive:	Negative:

• Massive growth:
  o Developments.
  o Businesses.
  o Tourism & property are 2 major industries.
• Jobs.
• Increasing market for products (catches and manufactured goods).
• Mykonos:
  o Job creation.
• Attracts people to area.
	• Costs of new infrastructure.

Table 8: Social environment

Positive:	Negative:
• More cosmopolitan. • Job opportunities. • Larger market. • Improvements to facilities and amenities.	• Low-income communities not seeing many benefits. • Increased cost of living. • Loss of sense of belonging (locals).

	• Changing character.
	  o Older houses removed.
	• New 'culture'.
	• Most workers brought in from outside.
	• Mykonos:
	  o Gambling problems especially for lower income groups.

Table 9: Biophysical environment

Significant:
• Congestion in tourist season. • Small game affected by fences. • Loss of sensitive flora. • Development on dunes. • No systems monitoring environmental change and degradation. • Urban sprawl. • Water delivery. • No political will (efficiency or sufficiency)[1]. • Marine park but managed like terrestrial park[2]. • Apathy of SANParks and tourists[3].

[1] A number of the local people feel that there is not enough political support for the conservation in the region. The steps that are taken are not very efficient and they are not adequate.
[2] A large proportion of the West Coast National Park is comprised of the Langebaan Lagoon and it falls along the Atlantic Ocean coastline. Despite these high marine and estuarial components, the park is managed as a terrestrial environment as opposed to a combination of terrestrial and marine environments.
[3] Some of the local people feel that South African National Parks (SANParks) and tourists are not adequately concerned about the biophysical environment.

6.2.2. Paternoster

Tables 10 to 13 summarize the range of issues identified by 18 local residents concerning the rapid scale of development in Paternoster.

Table 10: Attractions and detractions of Paternoster

Attractions:	Detractions:
• Way of life. • Restful/quiet. • Beautiful. • Opportunities – tourism related. • Sense of community. • Afrikaans community. • Comfort zone.	• Increasing noise. • Little work. • Fishing quotas. • Too many tourists. • Rapid growth.

Table 11: Economic environment

Positive:
• Increasing income available. • New business opportunities. • Tourism.

Table 12: Social environment

Positive:	Negative:

• Increasing business opportunities.
• Jobs.
  o Mainly for women.
• Increased income available.
• Increasing property values.
• Developers benefiting.
• Small-scale businesses.
	• Limited access to beaches.
	• Lack of understanding (new people and tourists).
	• New people create problems:
	  o Highlight "issues".
	• Can't afford property.
	• Taxes increasing.

• Growing town: o Better access to amenities and resources.	• Competition for jobs increasing. • Season very busy. • Anti-social behaviour increasing. o Increased crime. o Drugs – accessibility.

Table 13: Biophysical environment

Negative:	Neutral:
• Increased use of beaches. • Increased traffic. • Recreational fishing increasing. • Litter. • Loss of 'green space'.	• Very little terrestrial fauna[1].

6.2.3. St. Helena Bay

Tables 14 to 17 summarize the range of issues identified by 22 local residents concerning the rapid scale of development in St. Helena Bay.

Table 14: Attraction and detractions of St. Helena Bay

Attractions:	Detractions:
• Fishing work. • Beautiful. • Safety. • Community. • Clean. • Wildlife.	• Not many job opportunities. • Most jobs seasonal or temporary. • Far from town (Vredenburg). • Smell from fish factories. • Rate of growth. • Poor living conditions for low-income groups.

[1] Some of the local people feel that there was never a significant amount of terrestrial fauna in the immediate region. They therefore feel that the growth of the town had little or no impact on the terrestrial fauna of the area.

	• Lack of attention and aid from municipality. • Shops expensive. • Poor services.

Table 15: Economic environment

Positive:	Negative
• More jobs. • Tourism growing. • Market expanding. • Exposure.	• Small contribution to local economy. • Increasing population. • Arrive with short-term work and stay. o Burden on town resources. • Urban sprawl. • High costs of new infrastructure. • Municipality cannot cope with rapid growth. • Backlogs for housing.

Table 16: Social environment

Positive:	Negative:
• Job opportunities. • Resources coming in. • Better amenities & infrastructure. • More shops etc. being built. • Developers and new people (middle-high income) benefit significantly. • Small businesses – more business.	• Costs increasing. • Decreasing safety. • Very little money goes to locals. • Jobs taken by outsiders. o Locals only have fishing skills. • Lack of access to beaches in developments.

• More business for fishers.	• Burden on schools, churches etc. • Locals being forced out by rising costs of loving. • Increased competition for land. • Visual impacts of developments. • Prostitution. • Loss of sense of community. • Increasing cost of land. • Payment for land insufficient. • Sea front property being taken away from local communities. • Developers trying to move people. • Increased traffic. • Amenities insufficient. • Loss of character (Miami Village). • Poor treatment of locals by tourists. • Movements of facilities such as clinic and post office to support new developments: o People have to travel further for access. • Money is moving to Britannia Bay and Shelley point (shops etc.).

Table 17: Biophysical environment

Negative:	Neutral:
• Fish stocks decreasing. • Rapid decline in fauna (tortoises, antelope, rodents and birds) • Rocks in the 'coastal zone' stripped of molluscs and crustaceans. • No policing. • Exotic plants being introduced. • Construction on dunes. • Loss of green space. • Large scale removal of vegetation. • Loss of natural aesthetics.	• Already bare land in some cases[1].

6.3. Developer's perspectives

A discussion with Mr. Gert Joubert, who runs Britannia Bay Developers, provided the following perspectives regarding developments on the West Coast.

Mr. Joubert first became interested in the study region about 15 years ago as he saw enormous potential for residential developments. The area was, and still is, scenically very attractive and this beauty was realised by relatively few at the time. It was very underdeveloped and the people in the region were very poor.

[1] A number of the new developments have taken place on land that was already degraded and cleared of vegetation. In the past, poor municipal services in the town resulted in rubbish being dumped on open land. A number of new developments have been implemented on land that was degraded as a result of this.

At the time, the region was almost solely inhabited by local fisher communities and the villages were completely reliant on subsistence fishing and on a number of fish processing factories in the region. In addition to the potential for profit generation, developers saw the introduction of new developments as providing a means of diversifying the livelihood strategies of the people living in the region. This would provide more income and lead to the alleviation of poverty. The creation of new developments would lead to increased economic activity in the region, thereby strengthening the local economy, further benefiting the local people. The actual construction would create work for the local people.

According to Joubert, there was little potential for conservation 15 years ago. The fish factories were discharging large quantities of pollutants into the ocean and the air. The economy of the area was very weak at the time and there was little money available for conservation and policing. Notwithstanding the existence of laws and regulations, a lack of policing resulted in there being a great deal of poaching (especially the poaching of the West Coast Rock Lobster) and refuse was frequently dumped on readily available open space. The developers consider that the introduction of new developments and the growth of the small towns provides more funds for policing and brings in people with greater conservational concerns.

At the time foreigners owned large tracts of sea-front land in the region. This land was alienated from the public and prevented access to the extensive beaches. The development of this property has resulted in improved road networks and, through careful design, has allowed increased access to the seashore.

The last point made by the developer was that a great deal of negative attention has been given to the large scale of growth on the West Coast in recent years. Joubert emphasised that only about 5 percent of the coastline has been developed to date (albeit with the greatest scenic attraction and utility)[1], which he perceives as being a relatively small proportion.

[1] Author's observation.

Chapter 7: Discussion

This section will provide descriptions of the positive and negative effects identified in the *post hoc* scoping exercise. Section 7.1. will describe the situations specific to each of the three towns in question. Section 7.2 will utilise the information obtained in these case studies, along with information obtained from other case studies, to attempt to develop a more generic categorization of the effects of growth and development along the coastal zone.

7.1. Case studies

This section will describe the situations unique to the three towns investigated during this study: Langebaan, Paternoster and St. Helena Bay. These case studies are *post hoc* scoping studies that were aimed at identifying the most significant developmental effects for which there is public concern. The topics addressed in this section are those that were brought up during this *post hoc* scoping process.

These topics, as well as a number of other relevant topics, will be dealt with further when addressing the generic impacts of growth and development on towns on the West Coast (Section 7.2.). When applying these case studies to the broader context of the West Coast, they will need to be used in conjunction with other data, the majority of which was supplied by the Saldanha Bay Municipality.

These data are not readily available for individual towns for 2 reasons. The first reason is a lack of specific studies conducted in these towns. The second reason relates to the management structure of the Saldanha Bay Municipality, which, as has already been mentioned, is the primary source of data on the region. Within its boundaries, the Saldanha Bay Municipality controls: amenities and infrastructure; health, environment and community services; economic development; finance; housing development; human resources; land, rural and agricultural development; planning and building control; and safety and security (Saldanha Bay Municipality, 2000). The Municipal area is sub-divided into 10 smaller voting Wards, each of which

encompasses a number of towns[1]. Each of these Wards has a Ward Committee/Forum under the Chairmanship of a municipal Councillor, the function of which is not to control the Ward but rather to broaden community participation at local government level and to make recommendation to the Municipal Council (Saldanha Bay Municipality, 2000). The towns within the Municipality are therefore grouped into their respective Wards, all of which are centrally controlled at a municipal level. As a result of this, disaggregated statistics relevant to specific towns in the Municipality are difficult to obtain because the statistics available generally pertain to the Municipality as a whole.

7.1.1. Langebaan

Table 18 below indicates the environmental effects that are deemed significant in Langebaan as well as the main criteria used to determine this significance. Following this table will be a discussion of these environmental effects.

Table 18: Significant environmental effects in Langebaan.

Significant Environmental Effect	Positive / negative effect	Criteria for Significance
• Growth of tourism.	• Positive & Negative	• *Large scale growth – affects many people.* • *High intensity.* • *Cumulative effects on biophysical environment, economy and population.* • *Policy advocates growth.*
• Growth of property market.	• Positive	• *Rapid growth in size of town.* • *Cumulative effects on biophysical environment and local community.*

[1] Langebaan falls within Ward 3, St. Helena Bay within Ward 6 and Paternoster within Ward 7.

• Job creation.	• Positive	• *Extent/scale – many new jobs available.* • *Cumulative effects – livelihood improvements, improved way of life and improved health and security.* • *Policy advocates job creation.*
• Provision of infrastructure and amenities.	• Positive & Negative	• *Extent/scale – rapid growth placing pressure on provision.* • *Long term benefits to local community.* • *Health and security improvements.* • *Conflict – difficulties providing adequate infrastructure and amenities. Time and monetary constraints.*
• Cost of living increase.	• Negative	• *Long term.* • *Health and security.* • *Cumulative effects – impacts livelihoods and quality of life.*

• Critical regionalism.	• Negative	• *Conflict between various interest groups.*
		• *Principles of equity – certain groups benefiting less than others, or experiencing greater negative effects.*
		• *Policy - loss of:*
		  o *Sense of place.*
		  o *Sense of history.*

		○ *Sense of craft.*
• Gambling problems.	• Negative	• *Health and security – degradation of livelihoods and social resilience.*
• Loss of green space.	• Negative	• *Extent/scale.* • *Long term – not reversible.* • *Cumulative effects – biodiversity and loss of productivity.* • *Policy – aesthetic quality should be taken into account.*
• Loss of biodiversity.	• Negative	• *Extent or scale – loss of natural space, overexploitation of natural resources.* • *Long term – not reversible.* • *Cumulative effects – productivity loss and impacts on the tourism industry.* • *Legislation/policy – biodiversity should be conserved to the fullest possible extent.*
• Water delivery	• Negative	• *Extensive development – stain on limited water supplies.*

Economic environment

There has been explosive growth in Langebaan in the last 5 years[1], with tourism and property growing to be the two major economic sectors in the town. This growth was sparked by the industrial developments taking place around Saldanha and the town has become highly reliant on the tourism industry. The *Coastal Zone Policy for the Western Cape* includes the growth of the tourism industry as one of its main priorities.

[1] See figure 3-.

According to Mr. Jaco Coetze, a representative of the Langebaan Homeowners' Association, there are over 200 estate agents operating out of Langebaan at the moment (verbal communication: 12 May 2006). The economy of the area has benefited considerably from this growth. There is a larger market for products, such as marine resources and manufactured products, and this has strengthened businesses in the region.

The Club Mykonos Casino development has made significant contribution to the local economy and has provided about 750 permanent jobs (Crowther, Cambell & Associates, 1998). It provided about R16 million in labour costs during construction and contributes over R16 million to the economy per annum (Crowther, Cambell & Associates, 1998).

The negative economic effects brought up by the residents of Langebaan are the municipal costs resulting from the provision of new infrastructure and amenities[1].

Social environment

There are increased job opportunities available to the residents of Langebaan. Despite these opportunities, many of the local people are unable to benefit due to a lack of skills. Most of the workers in the town are therefore brought in from other regions. The low-income members of the population therefore do not see as many benefits as one would assume they would[2].

The early residents of Langebaan feel that they have lost their original 'sense of belonging' in the town, which has become increasingly cosmopolitan. The 'culture' of the town has changed, and this has eroded their emotional ties (or *topophilia*) with the town. In the past, Langebaan had a culture created by a fishing lifestyle, which provided people with a relaxed and recreational environment for their 'second homes'. This culture has been replaced by one of tourist activity and business. Attempts have been made to ensure that the sense of place, craft and history of the

[1] Will be dealt with further in Section 7.2.
[2] Rate of employment will be described further in Section 7.2.

town are maintained, but they have generally failed. The character of the town has changed significantly, with many of the older houses characteristic of the region being removed and replaced by more modern, stylistically and aesthetically unremarkable, architecture. No place-specific planning, policy and design has been institutionalized.

Langebaan is a town driven by its tourism industry and as a result, the costs of living in the town are relatively high. Early residents generally struggle to afford these costs and their standards of living are being eroded.

Despite the positive impacts of the Club Mykonos casino development on the local economy, it has created a gambling problem within the lower income groups of the population. Although attempts are made to mitigate these problems, such as admission controls and awareness materials, the problem has persisted and has resulted in social and economic problems in the local community. Many people are wasting their income, which is in turn negatively affecting their livelihoods and the livelihoods of those dependent on them. Disruptions to livelihoods often result in social issues and a loss of security (Adger, 2004).

Biophysical environment

There has been a significant loss of open space in Langebaan. The development in the region is extensive and has resulted in the removal of a great deal of strandveld vegetation. This strandveld vegetation is vulnerable due to urbanization and urban sprawl and is therefore becoming increasingly threatened (de Graaf, 1995). The introduction of fences has affected the movement of small game, and the locals have seen a marked decrease in the number of small game sightings in the region.

The West Coast is an arid zone, which has significant water shortages. The increase in activity in Langebaan is placing increasing strain on the already limited water supply of the region[1].

[1] Information on the water limitations for the Saldanha Bay Municipal area available in section 7.2.3.

Due to the seasonal tourist industry, Langebaan gets highly congested during the tourist season. It is estimated that 1 in 4 households in Langebaan owns a boat, which is indicative of the high levels of activity on the Langebaan Lagoon (Myoli & Cowley, 2005). The increased activity on the lagoon and on the beaches has had negative effects on the biophysical environment of the immediate region.

Some of the local residents feel that management of the natural environment of the region, and particularly the West Coast National Park, is not adequate. These residents consider that South African National Parks (SANParks[1]) and tourists are apathetic, under-capacitated and under-resourced with regard to the conservation needs of the region. A large proportion of the West Coast National Park comprises the Langebaan Lagoon and the Atlantic Ocean coastline. Despite these dominant marine and estuarial components, the park is managed as a terrestrial environment as opposed to a combination of terrestrial and marine environments.

Another biophysical environmental issue that has arisen in Langebaan is that dunes have been built upon. Development on these dunes will disrupt their natural dynamics and result in their degradation. These dunes also provide a reservoir of sand that supplies the beaches during periods of erosion. The changes in the bay dynamics of the Langebaan Lagoon as a result of the harbour at Saldanha Bay have resulted in the erosion of beaches at Langebaan. The removal of the sand reservoirs has therefore partially contributed to the beach erosion, loss of tourist amenity and damage to property. These dunes contribute not only to the natural functioning of the ecosystem, but also to the 'sense of nature' of Langebaan.

7.1.2. Paternoster

Table 19 below indicates the environmental effects that are deemed significant in Paternoster as well as the main criteria used to determine this significance. Following this table will be a discussion of these environmental effects.

[1] The organisation that manages the West Coast National Park.

Table 19: Significant environmental effects in Paternoster.

Significant Environmental Effect	Positive / negative effect	Criteria for Significance
• Growth of tourism.	• Positive & negative	• *Large extent/scale.* • *Long term effects on the town.* • *Cumulative effects on biophysical environment, economy and population.* • *Policy advocates growth.*
• Population growth.	• Positive & negative	• *Cumulative effects – economic benefits, increased use of resources.* • *Conflict - for space, work and resources.*
• Job creation.	• Positive	• *Extent/scale – many new jobs available.* • *Cumulative effects – livelihood improvements, improved way of life and improved health and security.* • *Policy advocates job creation.*
• Provision of infrastructure and amenities.	• Positive & negative	• *Long term benefits for the local community.* • *Health and security improvements.*
• Changing land values.	• Positive & negative	• *Extent/scale – large scale increase in property prices.* • *Conflict – increased taxes and competition for land.* • *Principles of equity – land not available to lower-income members of population.*

• Linkages with surrounding towns.	• Negative	• *Cumulative effect – drugs and alcohol more accessible, leads to antisocial behavior.*
• Loss of green space.	• Negative	• *Extent/scale.* • *Long term – not reversible.* • *Cumulative effects – biodiversity and loss of productivity.* • *Policy – aesthetic quality should be taken into account.*
• Overexploitation of natural resources.	• Negative	• *Extent or scale – loss of natural space, overexploitation of natural resources.* • *Long term – not reversible.* • *Cumulative effects – productivity loss and impacts on the tourism industry.* • *Legislation/policy – biodiversity should be conserved to the fullest possible extent.*

Economic environment

Paternoster has little commercial or industrial activity. Its economy is largely reliant on fishing, tourism and the lobster factory. The tourism industry in the town does not attract many international tourists but is dependent on a South African market. The town therefore does not have a particularly strong economy and has limited business opportunities.

The increase in the population has resulted in more business opportunities for the local people as they have a wider target market. There are a number of new guesthouses, shops and restaurants introduced to the town in recent years. The growth of the town has also resulted in it becoming more 'visible' to tourists both in South

Africa and overseas. The tourist industry, although seasonal, has created a tourism-based economy in the town (both formal and informal). The local people believe that the tourism industry has contributed significantly to the economy of the town.

Social environment

With the growth of the economy has come an increase in small-business opportunities and job opportunities for the local people. As a result of this, certain local people have more income available to them. The people benefiting from the developments most are the shop owners, the developers and women working as domestics in homes. The lack of employment opportunities is a major problem in Paternoster. The tourist industry is highly seasonal and operates at such a small relative scale that it does not benefit the local people significantly. The majority of the local men work as fishers and do not have the skills required to take advantage of the tourism and the new homes in the region. They sell their catches to tourists during season, but feel that their sales are as high as they would hope. The local men are therefore not able to take full advantage of the growth of the Paternoster.

The local fishers do not consider that they have benefited much from growth in recent years. The majority of the fishers in Paternoster rely on subsistence fishing for their livelihoods and do sell a small amount of their catches. These fishers have been negatively affected by the seasonal fishing rights and quota system introduced by the *Marine Living resources Act (18 of 1998)*. The seasonal fishing rights and the quota system have increased the controls over catches and have significantly reduced Total Allowable Catches of many of the fishers in the town. The Local Economic Development Strategy for the Saldanha Bay Municipality made the following statement supporting this problem "These new fish quotas will lead to various problems in the fish industry of the Saldanha Bay Municipal area. This will lead to an increase of the prices, lower production and profit and no work for seasonal workers, which will increase the unemployment levels. The fishing quota needs to be re-visited because of the strain it is putting on the fishing industry, especially the fisherman entrepreneur." (Saldanha Bay Municipality, 2005b).

Decreasing catches resulting from overexploitation of marine resources and changing environmental conditions have also negatively affected the fishers in recent years. They have been forced to rely on the tourist industry of the town, which, due to its seasonal nature, does not create secure livelihoods. Although more domestic and construction jobs are being created by an increase in the number of homes in the region, the growth of the town has attracted more people which has in turn led to an increase in competition for jobs. No training initiatives have been put in place to re-skill the traditional fisher folk so job opportunities in the construction industry are not readily available to them in the face of competition from outside the area, save only for the lowest paid manual labour.

The improvements regarding the economy of the town, and the municipality, have resulted in an increase and/or improvement in the amenities and infrastructure available to the people in Paternoster such as improvements in the roads, streetlighting, stormwater drainage and the trading market that has been constructed at the beachfront. Many of these become public goods (pure and impure). Figure 10 shows some of the new roads that have been put in place as well as the trading market (top left).

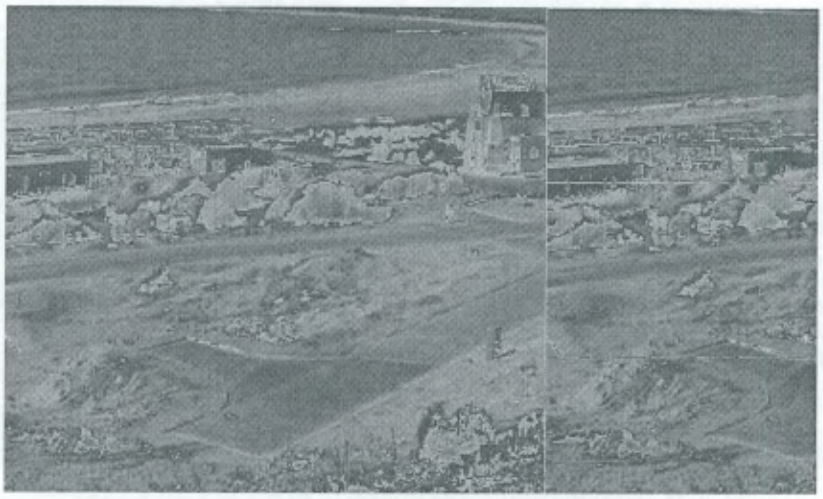

Figure 10: New roads and trading market in Paternoster.

The demand for property in Paternoster has grown a great deal, which is evident when one notes the rapid expansion of the town in recent years. As a result of this, property in the town has greatly increased in value. Property prices in Paternoster have risen by 1500 percent in the last 6 years (Seef Properties, 2006). The assets of many local residents have therefore grown in value. Since capital and financial assets contribute to people's livelihoods in that they can be parlayed into other assets, an increase in these assets has resulted in the livelihoods of many local people improving. However, against this, a problem with rising property values is that many of the local people are no longer able to afford property any more. Rising property prices coincide with rising rates. This further contributes to the original indigenous population being unable to own land in the town.

An issue linked to the increased demand for land in Paternoster is that developers are buying up a great deal of property from local people. They then renovate these properties and sell them at a very large profit. The local people feel that they are not benefiting as much as they should from this situation.

The growth of Paternoster has resulted in the many 'new' people coming to the town. These outsiders often generate tensions with the local people due to a lack understanding between them. The local people feel that new people highlight 'issues' in the town and create problems for the older residents. Some of the activities carried out by the historic community of the town, many of which involve exploitation of natural resources, are depreciated by new-comers. Although these activities are not environmentally sustainable and should be prevented, they are a source of conflict between the early and newer members of the population.

Increased contact with the larger towns has resulted in alcohol and drugs becoming more accessible to the younger local residents. This in turn has led, directly and indirectly, to a range of social pathologies including alcoholism, foetal-alcohol syndrome, absenteeism, spousal and child abuse, divorce, and anti-social behaviour. A

lack of employment opportunities, coupled with an increase in the number of middle to upper income people, has resulted in increased crime in the town[1].

Despite the many social problems in the town, the majority of the local people feel that its intrinsic character, or 'sense of place', has been maintained. As a result of this, their emotional ties to Paternoster ('topophilia') are maintained. There are very strict regulations regarding architecture in the town and this has ensured that the identity and character of Paternoster have not been negatively affected. The 'sense of history' of Paternoster, created by the traditions and values of the local people, has also been maintained and there remains a strong sense of community, especially in the lower income residential areas. There has therefore been relatively little breakdown in the social capital of the town[2]. Almost everyone interviewed identified the sense of community of the town as being one of its major positive attributes. The way of life has been maintained, which was another positive attribute of the town identified by the people. The developments in the town have therefore generally adhered to the principles of 'critical regionalism' outlined in the *Coastal Zone Policy for the Western Cape* (2005).

Biophysical environment

The new developments in Paternoster have resulted in a loss of open or 'green' space. The use of the beaches has increased considerably which does have negative effects on the natural functioning of the coastal zone. The amount of poaching, particularly of West Coast Rock Lobsters (crayfish) and abalone and the stripping of mussel banks, has increased in recent years, mainly as a result of the quotas and seasonal fishing rights imposed by the *Marine Living Resources Act (18 of 1998).* Many local people, whose livelihoods were historically dependent on the extraction of marine resources, no longer have the legal right to extract them. They are therefore 'forced' to poach due to a lack of other options.

[1] Perception of members of the community based on observation, cannot be statistically verified.
[2] Social capital is one of 5 types of livelihood assets, the others being financial, built, human and natural.

The amount of litter, particularly non-biodegradable plastics, has increased due to increased activity. This has negative impacts on the natural environment both functionally and visually. There has been a growth in the number of recreational and subsistence fishers in the town. This has placed increased strain on the already limited marine resources in the area. There has also been an increase in the amount of traffic on the roads which creates noise and air pollution.

Although there are negative effects on the natural environment, the local people do not perceive these effects to be particularly significant in Paternoster. The 'sense of nature' has been maintained and the town reflects a sympathetic relationship with the natural environment. The residents still consider the town to be beautiful and do not feel that this beauty has been significantly diminished in recent years.

7.1.3. St. Helena Bay

Table 20 below indicates the environmental effects that are deemed significant in St. Helena Bay as well as the main criteria used to determine this significance. Following this table will be a discussion of these environmental effects.

Table 20: Significant environmental effects in St. Helena Bay.

Significant Environmental Effect	Positive / negative effects	Criteria for Significance
• Growth of tourism.	• Positive & negative	• *Large extent/scale.* • *Long term effects on the town.* • *Cumulative effects on biophysical environment, economy and population.* • *Policy advocates growth.*
• Population growth.	• Positive & negative	• *Cumulative effects – economic benefits, increased use of resources.* • *Conflict - for space, work and*

		resources.
• Job creation.	• Positive	• *Extent/scale – many new jobs available.* • *Cumulative effects – livelihood improvements, improved way of life and improved health and security.* • *Policy advocates job creation.*
• Provision of infrastructure and amenities.	• Positive & negative	• *Extent/scale – rapid growth placing pressure on provision.* • *Long term benefits to local community.* • *Health and security improvements.* • *Conflict – difficulties providing adequate infrastructure and amenities. Time and monetary constraints.*
• Middle-upper income housing developments.	• Negative	• *Extent/scale – affecting whole town population.* • *Severity/intensity – high level of development implementation at present.* • *Long term – irreversible changes.* • *Cumulative effects – changing character of town , increasing cost of living* • *Conflict – between early residents and those creating change.* • *Many don't comply with policy requirements.* • *Principles of equity – benefits and*

		negative effects not evenly distributed.
• Cost of living increase.	• Negative	• *Long term.* • *Health and security.* • *Cumulative effects – impacts livelihoods and quality of life.*
• Changing land values.	• Negative	• *Extent/scale – large scale increase in property prices.* • *Conflict – increased taxes and competition for land.* • *Principles of equity – land not available to lower-income members of population.*
• Critical regionalism.	• Negative	• *Conflict between various interest groups.* • *Principles of equity – certain groups benefiting less than others, or experiencing greater negative effects.* • *Policy - loss of:* o *Sense of place.* o *Sense of history.* o *Sense of craft.* o *Sense of nature.* o *No sense of limits – urban sprawl particularly evident.*
• Forced removals.	• Negative	• *Legislation/policy.* • *Principles of equity – low-income residents overlooked.*
• Increased crime.	• Negative	• *Security – crime is increasing.*

		• *Cumulative effects – impacts on tourism and economy.*
• Loss of green space.	• Negative	• *Extent/scale.* • *Long term – not reversible.* • *Cumulative effects – biodiversity and loss of productivity.* • *Policy – aesthetic quality should be taken into account.*
• Overexploitation of natural resources.	• Negative	• *Long term – lack of sustainability.* • *Cumulative effects – decreased production has negative economic impacts, loss of aesthetic appeal.* • *Lack of reversibility.*
• Urban sprawl	• Negative	• *Extensive.* • *High intensity.* • *Conflict with policy.* • *Lack of efficiency.*
• Water delivery	• Negative	• *Extensive development – stain on limited water supplies.*

Economic environment

As was the case with Paternoster and Langebaan, the growth of St. Helena Bay and its surroundings has created jobs, increased business opportunities and created exposure thereby attracting further investment to the area. The fishing industry in the area is particularly strong at present. The local economy is therefore benefiting to some extent from the growth. Despite these positive effects, the residents of St. Helena Bay cannot see much visible change in the local economy and do not believe that there has been much positive change.

The growth and extensive urban sprawl is placing a great deal of strain on the local municipality[1]. Urban sprawl makes urban areas difficult to manage, inefficient and inequitable (DEADP, 2005). St. Helena Bay is growing faster than Paternoster and is considerably less urbanised than Langebaan. There is therefore limited infrastructure in place (less than Langebaan). This infrastructure is required by the rapidly expanding town and must be provided by the municipality. The local municipality is also struggling to deliver the low-cost housing required by the rapidly growing low-income population. The local municipality cannot cope with the rapid growth[2] and is ill-prepared for its growing population. This is placing strain on both the economy and the community of St. Helena Bay.

Another issue associated with the growing population is that many people arrive in the area with temporary work, usually as construction workers. Once this short-term work is finished, they are reluctant (figuratively unable) to leave the town due to a lack of funding and opportunities elsewhere. There is therefore a rapidly growing unemployed population in and around the town[3].

Social environment

The expanding population pressures have resulted in an improvement of amenities and infrastructure in the town. There are more business and employment opportunities in the town and social amenities are increasingly available. The livelihoods of some people are therefore improving.

The new developments in the region can only be afforded by middle-to-upper income people. There is therefore a growing population of more affluent people in the region, which has resulted in the costs of goods and services increasing. This has further increased the costs of living for the residents of St. Helena Bay. The rising costs of

[1] See figure 4.
[2] Information obtained from Mrs. Meiring, a Clerk of the Saldanha Bay Municipality.
[3] Unemployment levels in the Municipality increased by 8 percent from 1996 to 2004 (Saldanha Bay Municipality, 2005b).

living have forced many people out of their homes and into low-cost housing in the region.

The growing demand for land as well as the expanding population has resulted in rising property values and rates[1]. The local people are losing their ability to afford property in the area and are therefore being forced out of the town[2]. Many of the residents are unable to afford the rising taxes imposed on them and are forced to sell their land. Local members of the community that can afford to buy this land are unable to because it is rapidly bought up by developers. There is considerable leakage of income out of the urban economy as purchasing for high- and bulk low-order goods occurs in the main regional centre, Vredenburg and as far afield as Cape Town.

As is the case in Langebaan and Paternoster, the low-income residents of St. Helena Bay typically rely on marine resources for their livelihoods. They therefore lack the skills necessary for taking advantage of the growing tourism and construction industries. The construction and tourism related jobs are therefore taken by outsiders. Less of the money coming into the town therefore goes to the low-income local residents than would be expected.

The growing population is increasing the burden of the town resources. There is a lack of space in the schools, the clinic is overworked and there is not enough housing. The local residents feel that their access to these facilities in becoming increasingly limited.

At one stage there were a number of low-income communities living along the sea-front of St. Helena Bay. All except one of these communities have been removed and replaced with higher income housing. This is in response to the high value of this land, which is in demand from developers interested in the area. Many of these communities lived on municipal land, which they had been living on for many years. These people feel that they have the right to live on this land and that their forced

[1] See tables 22 and 23.
[2] As was the case in Paternoster.

removal is unfair, which results in a diminution of their sense of belonging. According to Walmsley and Lewis (1984. pg. 99), "[t]o be forcibly evicted from one's home and neighbourhood is to be stripped of a sheathing, which in its familiarity protects the human being from the bewilderment of the outside world". The low-income members of the population feel that the municipality and developers do not do enough for the lower income groups in the area and do not take their needs into account. This is a significant issue as it infers a lack of equity and social justice.

During the planning of the development at Britannia and Shelley Point, the residents of St. Helena Bay were promised that the new developments would have no visual impacts. As can be seen from figure 11 below, this is not the case. In this picture the housing and palm trees of Shelley Point are visible in the background with the natural strandveld vegetation in the foreground. Although this visual impact is not particularly significant, it has created a source of conflict between various members of the population.

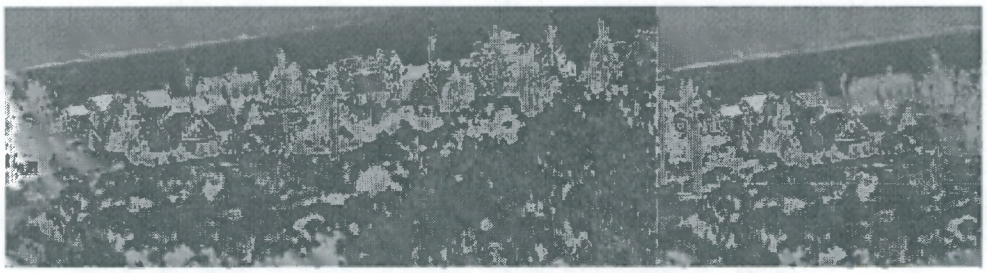

Figure 11: Shelley Point.

Many of the policies outlined in the *Coastal Zone Policy for the Western Cape* (2003) were very obviously not adhered to when planning developments in the region, although the planning took place long before these policies were developed. Many of the developments do not adhere to any architectural style or attempt to blend with the local environment. The town has therefore lost its sense of place, history and craft[1].

[1] See section 3.2.2.

As a result of this, St. Helena Bay has no sense of place, nature, craft or history and has lost its intrinsic character.

Social cohesion is generally prevalent in communities that have a similar culture or history. The arrival of many people that do not share this common culture or history has resulted in the breakdown of social cohesion in the population. This in turn has resulted in the loss of a sense of community in the town.

The developments being constructed in St. Helena Bay have brought many builders in from outside of the town. There has been a growing incidence of prostitution as a result of the presence of these builders.

Some of the private developments in the area cut off the shore from the inland areas. This restricts access to the beaches that fall on the boundaries of some of the developments. This also conflicts with one of the policies outlined in the *Coastal Zone Policy for the Western Cape* (2003), which states that access to the sea shore must be provided to those people with traditional rights.

Many of the local people feel that they are poorly treated by tourists and developers. Analysis reveals a lack of understanding between the local people, tourists and developers, which has in the past led to conflict.

A major concern expressed by the residents of St. Helena Bay is the rise in crime levels in recent years. The growth of the town has attracted many unemployed people who resort to crime in order to ensure their livelihoods. Many of the residents regarded the safety in St. Helena Bay as one of its major attributes and feel that decreasing safety is a serious problem[1].

Despite the many complaints about the changes in St. Helena Bay, the majority of the people feel that change is necessary for the economy of the region. A widely held

[1] As was mentioned in section 7.2.1., this is the perception of members of the community based on observation.

opinion is that the growth is necessary but must be controlled and must benefit the lower income groups.

Biophysical environment

The marine environment at St. Helena Bay has been degraded due to the overexploitation of marine resources. This overexploitation has been primarily caused by the rapidly growing population. A large proportion of this population is highly reliant on the natural environment for their livelihoods[1]. The rocks on the beaches have been stripped of all life (molluscs, crustaceans and seaweed) and fish stocks appear to be decreasing (DEADP, 2005). Although there are regulations dictating when and how much is extracted from the sea, there is little policing in St. Helena Bay. A lack of policing and the pressures associated with unemployment are the primary causes of the overexploitation of marine resources in St. Helena Bay.

The urban sprawl prevalent in the St. Helena Bay region has had marked effects on the biophysical environment due to fragmentation and a loss of natural habitat. This development has formed a ribbon along the coast[2], thereby creating an artificial barrier between the inland areas and the coast. This urban sprawl is in conflict with the *Coastal Zone Policy for the Western Cape*.

Figure 12 below shows an example of the extent of the removal of vegetation for developments in St. Helena Bay. There has been a rapid decline in observed fauna over the years. In the past tortoises, small antelope and rodents were commonly seen. This is no longer the case as their habitats have been removed or extensively degraded.

[1] Statistics relating to the percentage of people reliant on marine resources for their livelihoods are not available for the reasons outlines at the beginning of this chapter.
[2] See figure 5.

Figure 12: Vegetation removal in St. Helena Bay.

Some of the developments have introduced exotic plants to the area. As yet there is no problem with alien invasive plants, but the introduction of palm trees is in direct conflict with the 'sense of nature' of the entire region. Although some would say that this improved the aesthetics of the developments, the presence of the palm trees interferes with the natural aesthetics of the region and creates contrasting atmospheres. There has also been construction on the dunes around St. Helena Bay[1].

7.2. Coastal development impacts

This section will utilise the information obtained in these case studies, along with information obtained from the Saldanha Bay Municipality and other case studies, to provide a description of the generic effects of growth and development in towns throughout he west Coast.

7.2.1. Economic environment

Positive impacts on the economic environment

The most noticeable positive economic impacts associated with new developments are those relating to the provision of new jobs. The implementation of new developments creates jobs during their construction as well as when they are completed. The

[1] The negative effects of which were described in Section 7.1.1. and will be discussed further in Section 7.1.3.

creation of jobs is essential for the well-being of local people and for the alleviation of poverty, and as such, is vitally important for sustainability.

Based on the location quotient, historical performance trends and current market conditions of the region, it is estimated that the economy of the region is growing at about 3 percent per year (Saldanha Bay Municipality, 2002a). As was mentioned in Section 2.1.2., the population growth rate of the region is roughly 6.6 percent per annum. This indicates that although the economy of the region is growing, the rate of population growth exceeds the economy. Unemployment and poverty are therefore on the rise. The percentage of people living in poverty in the Saldanha Bay Municipality rose from 7.9 percent in 1996 to 9.8 percent in 2002 (Saldanha Bay Municipality, 2005). Not only is the poverty rate increasing, but so is the poverty gap. The poverty gap is a scale that indicates the difference between a poor household's income and the poverty threshold. It therefore measures the 'depth' of poverty (Saldanha Bay Municipality, 2005). The poverty gap doubled from 1996 to 2002, indicating that many people are becoming poorer each year (Saldanha Bay Municipality, 2005). This is blamed on a lack of available jobs and a lack of skills in the local population. Table 21 below shows the skill distribution within the population of the Saldanha Bay Municipality.

Table 21: Percentage distribution of skills within the Saldanha Bay Municipality population .

Skill Category	Percentage Distribution (%)
Construction	7.28
Building Industry	12.58
Drivers/Operators/Transport	9.27
Electrical/Mechanical	3.31
Manufacturing	1.98
Admin/Management/Financial	13.24
Human Technology Industry	14.56
Health Related Industry	1.32

Fishing Industry	12.58
Other	23.84

(Source: Saldanha Bay Municipality, 2005)

From this table it is evident that roughly 19.86 percent of the local population have skills in building and construction. The rapidly growing coastal towns are therefore providing many jobs to people with skills such as these.

With the implementation of new developments comes an expanding business market. This leads to further job creation and strengthens the local economy. Growth of local economies increases the financial feasibility of new businesses and allows for a diversification of business types, which in turn further strengthens the local economy. This is evident when one notes that 13 percent of the businesses within the Saldanha Bay Municipality were only set up in the last year (Saldanha Bay Municipality, 2005). One of the policies outlined in the *Coastal Zone Policy for the Western Cape* (2003) alludes to the importance of new developments promoting economic activities that allow for sustainable economic growth (policy described in Chapter 3).

A growing economic sector has the ability to attract further investment from both local and foreign sources, which will of course improve the local economy. While not directly related to residential and business activities in the study areas, the Saldanha Bay Municipality is at present attracting a considerable amount of investment into the Port at Saldanha. The harbour is at present being expanded so that it can handle larger bulk loads and its storage facilities are being improved and increased in size. This is providing a major capital injection into the region, which is viewed by many to be one of the causes of the extremely rapid growth in the region. The oil and gas hub is another project that is attracting investment into the area and may also contribute a great deal to the strengthening of the local economy.

The new developments in the region have led to a rapid increase in the size of the local population. This has in turn created a larger tax base upon which the local

municipality can draw. This is advantageous to the local municipality as it provides them with more money, which is required for creating new infrastructure and providing better amenities and services. The increase in the capital budget for the Municipality is indicative of the need for this new infrastructure and these new services. The capital budget for the Municipality for the financial year of 2002/2003 was R 50 473 612 (Saldanha Bay Municipality, 2002a). This grew to R107 634 187 for the 2006/2007 financial year (Cornett, 2006).

The tourism industry has become extremely important to the economies of small towns along the West Coast. As was mentioned in Chapter 2, it is estimated that 13 percent of the visitors to the Western Cape travel up the West Coast. In 2002, tourism provided 9.8 percent of the Gross Geographic Product of the Western Cape (DEAT, 2005). This value is believed to have risen in recent years as a result of the rapid growth taking place on the West Coast. The tourism industry is growing rapidly and is making increasingly important contributions to the local economy. As was also mentioned in Chapter 2, the *Provincial White Paper for the Western Cape* set a target of four million overseas tourists per annum by 2010. If 13 percent of these tourists travel up the West Coast, then roughly 520 000 people will visit the West Coast annually. The growth on the West Coast, with the associated growth of its tourism industry, is therefore providing a large contribution to the achievement of increasing the number of visitors to the Western Cape.

Although the poverty gap is increasing, responsible tourism has the *potential* to create jobs and promote economic growth, this in turn can contributes to the alleviation of poverty. Increased regional income from tourism can also contribute to the protection of the biophysical environment and improvements in transport and infrastructure (DEAT, 2005).

It is impractical to attempt to prevent any change at all. A region, such as the West Coast, has a great deal of potential for growth based on the many characteristics outlined in Chapter 2 of this paper. It is important to South Africa's economy that

activities that will strengthen the economy are promoted and that its potential is utilised. One of the policies outlined in the *Coastal Zone Policy of the Western Cape* (2003) describes the importance of new developments promoting economic developments that will ensure sustainable economic growth and the economic independence of settlements. However it is emphasised that the implications of any development need to be recognized, problems anticipated and, where possible, mitigated.

In the past, the local communities were highly reliant on natural resources for their livelihoods. The local economies were dominated by the extraction of consumptive marine resources and agriculture. The growth of small towns in the region has enabled these local economies to diversify, allowing a wider range of economic activities. Before 2000, the smaller towns[1] on the West Coast were dominated by agriculture and fishing activities, with limited industry and tourism. The growing population in the towns have created expanding target markets, which has led to expansions in retail, manufacturing and service provision. Tourism and its related industries (such as manufacturing and service provision) have grown a great deal. The more diversification there is in an economy, the less vulnerable it is to market fluctuations (Saldanha Bay Municipality, 2005). This is also in line with the *Coastal Zone Policy of the Western Cape,* which stresses the importance of diverse coastal economies.

Negative impacts on the economic environment

The growth of the town on the West Coast has led to increasing costs for the municipality[2]. The municipality has to provide the infrastructure and services such as sanitation and water for the new developments and this is creating financial strain.

The population is growing rapidly and many of the new residents are unemployed people seeking jobs. These people need housing (low-cost) and it is up to the Municipality to provide them. The Municipality is having difficulties with providing these houses for financial reasons and there is a backlog. In 2005, St. Helena Bay had

[1] All of the older (pre-1980) coastal towns in the Municipality with the exception of Saldanha.
[2] Look at information already provided on expanding capital budgets.

a housing backlog of about 800 housing units, Paternoster had a backlog of about 60 housing units and Langebaan had a backlog of about 130 housing units (Saldanha Bay Municipality, 2005a). The housing backlog for the whole Saldanha Bay municipality was roughly 3220 housing units. Providing these houses is placing enormous financial pressure on the Municipality and as a result is negatively impacting the local economy[1]. As a result of these increasing municipal costs, the costs of living in the municipality are increasing. Tables 22 and 23 below show the increasing household costs from the 2005/2006 financial year to the 2006/2007 financial year. From these tables the pressure of supplying sanitation by the municipality can be noted by the extremely large cost increases (10.20 percent and 10.23 percent for large households and small households respectively[2]). The notable cost increases for both household types are for electricity, refuse removal and VAT on services, all of which showed an increase of over 5 percent. It is also evident that smaller households are experiencing a greater increase (percentage) in their household costs than large households are.

Table 22: Monthly accounts per dwelling unit for *large households

Rates and service charges	2005/2006 (Rand)	2006/2007 (Rand)	Increase
Property rates	263.77	271.92	3.09%
Electricity: Basic levy	72.01	76.26	5.90%
Electricity: Consumption	273.9	290.1	5.91%
Water: Basic levy	21.00	21.00	0.00%
Water: Consumption	139.74	144	3.05%
Sanitation	72.05	79.4	10.20%
Refuse removal	50.02	52.52	5.00%
VAT on services	88.02	92.86	5.50%
Total	980.51	1028.06	4.85%

(Source: Cornett, 2006) * Large households: uses a basis of 1000 square meters, 1000 units electricity, 30kl water

Table 23: Monthly accounts per dwelling unit for **small households

Rates and service charges	2005/2006 (Rand)	2006/2007 (Rand)	Increase
Property rates			0.00%
Electricity: Basic levy			0.00%

[1] Personal communication with Mr. Shane Fordom from the Department of Housing.
[2] This tariff could be set to incur revenues which can be used to cross-subsidize other capital and revenue costs. If this is the case, it is still indicative of rising costs of living.

Electricity: Consumption	188.94	199.60	5.89%
Water: Basic levy	21.00	21.00	0.00%
Water: Consumption	93.86	96.71	3.04%
Sanitation	38.36	42.28	10.23%
Refuse removal	50.02	52.52	5.00%
VAT on services	54.84	57.7	5.20%
Total	446.58	469.81	5.20%

(Source: Cornett, 2006) **Small households: uses a basis of 300 square meters, 498 units electricity, 25kl water

Both urbanization and urban sprawl are extremely prevalent on the West Coast and are particularly prevalent in Langebaan and St. Helena Bay. Urbanization refers to the growth in the proportion of the population of an area within urban areas. The primary cause of urbanization in South Africa is the perceived income and employment opportunities in urban areas. Another major cause of urbanization in South Africa is that people look to urban areas for better infrastructure such as schools, hospitals, housing and transport (Bekker, 2003 in DEAT, 2005). Urban sprawl is the rapid and uncontrolled expansion of urban areas. This is often the result of new developments being placed in areas that are viewed as being more attractive than others, such as along the coastline. It can also be the result of a lack readily available land for the delivery of low cost housing (DEAT, 2005). Urban sprawl and urbanization have implications for the provision of services and housing by the local government. The rapid and widespread expansion of developments creates inefficiencies with regard to the provision of infrastructure and transport options. It also incurs opportunity costs with regard to agricultural production and the natural environment. The cost of supplying services and infrastructure can have negative effects on the local economies of these areas. Limited services can also lead to living conditions being less than adequate.

7.2.2. Social environment

Positive impacts on the social environment

All of the social groups in the region are benefiting positively from the economic improvements associated with the new developments. The people that are benefiting most are the labourers, the building contractors, the developers and the middle and

upper income groups. The middle and upper income groups are benefiting because they are able to adapt to the changes taking place and take advantage of them. They have a more diverse range of skills and the financial backing that allows them to absorb the shocks created by change. The poor face greater exposure to livelihood threats and are more susceptible to shocks because they generally have fewer assets (Devereux, 2001).

A livelihood is made up of the capabilities, assets (material and social resources) and activities required for a means of living. A livelihood is 'sustainable' when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Carney, 1998 in World Bank, 2000). The *Sustainable Coastal Livelihoods Study* carried out by Glavovic *et al* in 2002 outlines 9 key coastal livelihood strategies:

- *Employment*: Both formal and informal employment with paid wages.
- *Pensions and government grants.*
- *Agricultural production:* This includes subsistence farming, forestry and commercial agriculture.
- *Resource harvesting:* For both subsistence and income. This includes fishing and other forms of resource extraction.
- *Production of goods:* Such as the production of crafts for tourist markets.
- *The provision of services:* e.g. guiding and providing accommodation.
- *Trading.*
- *Migration:* Moving to areas with 'perceived' opportunities.
- *Investing in social relationships and networks:* Involved maintaining rural/urban and coastal/inland linkages.

When considering these 9 coastal livelihood strategies it is evident that new developments can benefit the residents of coastal towns. The employment opportunities provided by new developments have already been described. Well-managed resource extraction and environmental rehabilitation depend on the funds

available. The continued conservation of the West Coast National Park and the Cape Columbine Nature Reserve are dependent on the funds obtained from the Municipality, South African National Parks and tourism. Economic growth in the region has therefore allowed for better conservation. Tourism-related developments create ever-growing markets for those people involved in the production of goods and crafts, as well as those that provide services such as guiding and accommodation. The growth of small coastal towns provides new sites to which people can migrate in order to improve their livelihoods. This growth also increases the linkages between rural and urban areas, as well as between coastal and inland regions. This in turn provides investments in social relationships and networks.

The increased population within the Municipality has widened its tax base. This wider tax base, in conjunction with the needs of the growing population, has pressurised the municipality into investing time and money in improvements of the older infrastructure and the provision of new infrastructure. The municipality is also providing more rural services, thereby improving the quality of life of rural communities.

In the past, a lack of housing close the towns meant that low income groups had to live in the rural areas and travel extensively to get to the towns. In recent years the municipality has had to build a great deal of low-cost housing close to the larger towns. As a result of this, people are able to live closer to their work, thereby saving them time and money.

Environmental conditions influence people's economic opportunities in many ways in both rural and urban areas, although this is more evident in rural areas. The dependence of communities on the environment has a direct impact upon their social resilience and ability to cope with shocks, particularly in the context of food security and coping with hazards (Adger, 2000). Evidence suggests that access to and the quality of environmental resources is crucial to the ability of the poor to sustain their livelihoods (World Bank, 2000). The poor face greater exposure to livelihood threats

and are more susceptible to shocks because they generally have fewer assets (Devereux, 2001).

Many poor households are totally dependent on natural resources for their livelihoods and have no alternative means of earning income. Dependence on natural resources makes the poor highly vulnerable to environmental degradation and natural disasters. Degradation of these natural resources can therefore have severe negative effects on the livelihoods of the poor. In the towns studied, many of the poor people are highly reliant on marine resources for the livelihoods. The local residents of all three towns obtained seaweed, West Coast Rock Lobsters, mussels, limpets and fish from the coastal environment. The residents complained that these resources have been greatly degraded, thereby reducing their source of food and income. According to Adger (2000, pg. 352), "the promotion of specialization in economic activities has negative consequences in terms of risk for individuals within communities and for communities themselves". The more diversification there is in the livelihood strategies within a household, the more secure it is likely to be (Ziervogel, 2004). The new developments in coastal towns on the West Coast have provided more opportunities for people in the region, thereby allowing increased diversification of livelihood strategies.

As was described by Mr. Joubert of Britannia Bay Developers, people who do not live in the region often own land on the West Coast. These properties are fenced off and prevent access to the beach. According to the *Coastal Zone Policy for the Western Cape*, access to the sea should be provided to people with historical and traditional rights. It is therefore important that a means of controlled access to the sea shore is provided. Some of the new beachfront developers provide transport routes to the sea shore providing local residents with access to the sea shore.

Negative impacts on the social environment

The new developments are being implemented and utilised by middle to upper income groups. The lower income groups therefore have few direct benefits from the new

developments. The local labourers benefit to some extent, but they are often overlooked because they lack the skill base needed for the new work.

In the past the region was economically dominated by agriculture and fishing related industries. With the new developments have come new opportunities, but the local people are unable to take advantage of these opportunities because they lack the skills required for carrying them out. The majority of the people living in the small fishing towns were fishers or worked in related industries. Although the percentage of people with fishing skills in the Saldanha Bay Municipality is only 12.58 percent, the percentage of people with fishing skills in coastal towns is markedly higher. They therefore do not have the skills for other industries such as construction and manufacturing. The developers would rather bring in people with the necessary skills than train people new to the industry. The labourers therefore often come from outside of the small towns.

Growth in the region has also attracted large numbers of in-migrants seeking work in the region. Population growth and in-migration (migration into an area) can both directly and indirectly affect human well-being (DEAT, 2005). Direct effects include competition for jobs and residential space. Indirect effects include increased levels of crime as a result of a lack of work opportunities and a breakdown in social cohesion. Social cohesion is generally prevalent in small communities that have a similar culture or history. This results in a degree of unity and the 'thickening' of social capital. Social capital is one of the 5 forms of capital into which people can invest for their livelihoods (the other four being human, financial, physical and natural). As has already been described, social capital refers to "the social resources people draw upon in pursuing their livelihood objectives, and includes the norms, networks and relationships of trust and reciprocity that enable people to co-operate and deal with differences." (Glavovic, B. *et al*, 2002. pg. 9). The rapid growth of the population and the arrival of many new people have resulted in interference with these social networks and relationships, thereby leading to conflict[1].

[1] This observation was identified by the early residents of all three towns studied.

The tourism industry along the West Coast targets visitors and this has resulted in the costs of goods and services becoming quite high. The lower income people in the region cannot afford these rising costs and their well-being is being negatively affected. The new developments generally target middle to upper income groups and are generally expensive. The local people are unable to afford houses in these new developments and are therefore unable to take residence in them. The high value of, and demand for, the new developments has also resulted in the value of the land in the region growing rapidly, making the purchasing of homes impossible for the lower income groups. Mrs. van der Merwe, the Principle of the Homenet offices at Langebaan and Yzerfontein, says that flats on the West Coast start at about R700 000 and reach any price up to around R4 million. She also says that the entry level for holiday homes in the region is around R900 000 (Wilson, 2006). As the value of the land increases, the rates paid to the municipality increase[1]. This makes it even more difficult for the low-income groups to continue living in the region.

Although increased tourism can be highly beneficial for job creation and the local economy, "poorly planned and unchecked tourism development has the potential to undermine the physical and cultural resource base on which it is reliant." (DEAT, 2005. Pg. 110). This often appears to be the case on the West Coast. Tourists are attracted by its unique cultural heritage and 'sense of place'. The presence of the tourists provides incentives for development and growth, which in turn detracts from the 'sense of place'[2].

Topophilia is people's "effective ties with the material environment" (Tuan, 1974. pg. 93). These ties may be aesthetic, tactile or more permanent and less easy to express feelings due to it being the "home, locus of memories, and the means of gaining a livelihood" (Tuan, 1974. pg. 93). A place can therefore gain an emotional value, which basically involves associating sentimentality with place (Tuan, 1974). According to Walmsley and Lewis (1984. Pg. 156), "everyone interacting with an

[1] Tables 22 and 23.
[2] Author's observation.

environment builds up a geographical epistemology which is founded on personal geographies composed of direct experience, memory and fantasy". The growth of towns in the region has resulted in the disruption of people's ties with the 'place'. This is because there have been significant alterations to the local environment. Localism is being degraded as local environments are become homogenous (Walmsley & Lewis, 1984). Developers are not taking sense of place into account, which has resulted in a sense of 'placelessness' in many towns.

The tourist industry is generally seasonal in nature. This creates issues for small businesses as they have a marked decrease in income during the off-season (DEAT, 2005). The job market also becomes extremely volatile, which in turn has negative impacts upon the livelihoods of those people reliant on the industry.

Another issue associated with growing tourist industries is the increasing prevalence of anti-social behaviour in local communities. This issue was particularly prevalent in St. Helena Bay and Paternoster. Tourism is known to attract crime, which can in turn negatively affect the tourism industry itself (as well as other industries in the region). Tourism in small remote localities exposes local communities to the "outside world". This can be beneficial as new ideas are developed and positive changes can result. It can also be problematic as historical way of life can be altered, thereby breaking down social ties and the "sense of community". The combination of higher incomes and closer links to other towns make drugs and alcohol more accessible. The use of alcohol and drugs can in turn lead to further antisocial behaviour.

7.2.3. Biophysical environment

Positive impacts on the natural environment

Although poorly planned and uncontrolled tourism can be detrimental to the biophysical and socio-cultural environments (this will be dealt with in the following section), responsible tourism is necessary for conservation. Tourism that is carried out in an appropriate manner can provide the funds sorely needed for conservation. It can also create awareness regarding environmental issues. According to the *Western Cape*

State of the Environment Report (2005), the coastal areas ranging from Langebaan to St. Helena Bay are well protected. This requires money, which in this case mostly comes from tourism. The growing tourism industry in the region is therefore making increasingly large financial contributions to conservation[1].

Economies, especially in coastal regions, are strongly reliant on natural resources for their productivity. It is therefore essential that the continued functioning of natural systems be maintained as this will ensure a sustainable natural resource base. A weak economy often results in the degradation of the environment. This is because money is required for the conservation of natural resources. The strengthening of the local economy has to some extent aided in the conservation of certain areas in the region, the most notable coastal examples being the West Coast National Park adjacent to Langebaan and the Cape Columbine Nature Reserve adjacent to Paternoster.

Another reason for weak economies increasing the vulnerability of the natural environment is that poor communities will rely extremely heavily on natural resources for their livelihoods, often at the direct expense of the biophysical components of the natural environment, as well as indirectly at the expense of the sustainability of their livelihoods. The promotion of diversity with regard to job opportunities, which is occurring as a result of the growth and development taking place on the West Coast, will strengthen livelihoods and local economies, ultimately placing less strain on natural resource bases if correctly managed.

Negative impacts on the natural environment

Urban sprawl and urbanization have resulted in large scale destruction of the natural environment due to spatially extensive growth and the increased use of resources (DEAT, 2005). Urban sprawl was particularly prevalent in the three towns investigated, particularly in and around St. Helena Bay[2]. Urban sprawl makes urban areas difficult to manage, inefficient and inequitable (DEADP, 2005). The issue of

[1] Although increased activity in the region has also had negative biophysical environmental impacts.
[2] See figures 2 to 4.

pollution (outlined previously) can also be linked to urban sprawl and urbanization. The visual quality of an area is very important to the tourist industry of that area. Both urbanization and urban sprawl can lead to a loss of visual quality, thereby damaging the tourist industry (DEAT, 2005).

The growth of towns on the West Coast is resulting in the fragmentation of the natural environment. Urban sprawl results in the 'fragmentation' or division of the natural environment into smaller units. This is not only an issue because the natural environment is made smaller, it also has implications for biodiversity and ecosystem functioning. The functioning of natural systems is reliant on the mobility of living organisms. The fragmentation of the natural environment eliminates natural corridors of movement, thereby impeding their functioning.

The sustainability of the natural environment is being threatened by rapid growth, urbanization and urban sprawl. As a result of this the Department of Environmental Affairs and Developmental Planning of the Western Cape has developed an 'urban edge' guideline document. These guidelines were developed in order to "counter urban sprawl, encourage densification and protect the natural environment" (DEADP, 2005. pg. 2). The guideline basically states that urban areas must have a demarcated urban edge, past which urban development will not occur. This boundary is aimed at ensuring "urban and environmental efficiency, effectiveness and economy in the interests of all" (DEADP, 2005. pg. 5). It will also ensure that growth will take place in such a way that social and environmental priorities are upheld.

A great deal of the recent development of the region can be attributed to rapid industrial growth. Industrial developments in the Western Cape are producing a great deal of pollution, as was outlined in the *State of the Environment Report for the Western Cape* (2005). The release of pollutants can have very notable effects on the quality of marine products. This in turn reduces the revenue received for the sale of these products (DEAT, 2005). Pollutants can also damage the visual quality of an area, which in turn detracts from its aesthetic appeal and can damage the tourism industry. A loss of biodiversity and human health risks are also problems associated

with the release of pollutants. The costs of cleaning up pollutants can be quite high, which also places a strain on local economies (DEAT, 2005).

The growing population on the West Coast is placing ever-increasing burdens on the natural resources of the region[1]. Marine resources on the West Coast are being utilized in a manner that is not sustainable. The overexploitation of coastal resources has resulted in a significant loss of biodiversity. A loss of biodiversity decreases the productivity of the natural environment, thereby limiting the benefits accrued from resource abstraction. Many coastal communities are heavily reliant on natural resources for their livelihoods and food security. A decline in the availability of these resources will therefore negatively impact their livelihoods.

The overexploitation of natural resources also results in changes in species dynamics (DEAT, 2005). Changes in species dynamics will have far reaching consequences throughout the ecosystem, which may in turn have negative impacts upon the benefits derived from this natural system. These benefits could include appeal for tourists, the extraction of natural resources and the 'sense of place'. Attempts have been made to alleviate this problem through the development of the *Marine Living Resources Act (18 of 1998)*. The main aims of the *Marine Living Resources Act* (MRLA) are sustainability, stability and equity. Part of its focus is to ensure that the extraction of natural resources from the coast is strictly controlled and takes place in a sustainable manner. The *Marine Living Resources Act (18 of 1998)* has attempted to ensure sustainability by promoting a quota system. This system has not been as effective as hoped as certain members of the population have lost their extraction rights, which has in turn resulted in many people poaching due to a lack of other options[2].

The construction of new developments on the West Coast has to some extent modified natural habitats. This has resulted in a loss of biodiversity, which in turn has impeded the natural functioning of ecosystems. The efficient functioning of natural systems is essential due to the 'services' they provide (DEAT, 2005). A loss of these 'services'

[1] Population growth rate of 6.6 percent per annum.
[2] Observation made by residents of the towns studied.

means that there will be a decrease in the natural resources upon which many are so reliant. In the coastal zone a decrease in marine resources will result in a loss of income, thereby contributing to the problem of poverty. The biophysical environment also plays an important role in the attraction of tourists. Negative impacts created by the modification of natural habitats will therefore have negative impacts on the revenue received through tourism. Certain regions have habitats that are unique and contribute to the 'sense of place' of that region. The habitats of the West Coast are unique and definitely play a role in the 'sense of place' of small towns. Habitat modification can therefore detract from the 'sense of place' of a region.

A major impact of growth on the West Coast has been a loss of biodiversity. The primary causes of a loss of biodiversity in the Western Cape are the overexploitation of natural resources, the loss and fragmentation of natural habitat, the introduction of invasive alien species of fauna and flora, land cover change, agricultural expansion, urban sprawl (which is viewed as the most serious issue for biodiversity in the Western Cape), urban growth and development, the modification of rivers, water abstraction, and changes in fire regimes (DEAT, 2005).

The loss and fragmentation of natural habitats negatively impacts ecosystem delivery such as water movement and waste assimilation. The loss of green space has impacted upon the aesthetics of the region, which in turn affects tourism and recreation (DEAT, 2005). The resources and services provided by the natural environment need to be replaced. This will have financial costs, which is a liability to local economies.

The vegetation typically found in the Western Cape (Fynbos, renosterveld, standveld etc.) is adapted to a regular fire regime. Human activities and alien vegetation create changes in these regimes with the frequency and intensity of fires changing (DEAT, 2005). Humans may try to prevent fires due to their risk for settlement or conversely start them through negligence. Alien vegetation often burns at a much higher intensity than the vegetation indigenous to the Western Cape. This prevents their efficient recruitment, thereby reducing biodiversity.

In some regions of the West Coast, the natural dune dynamics have been altered in an attempt to make them stable. The stabilization of dunes frees up more space on which development can take place. The stabilization of these dunes has greatly altered the natural functioning of the ecosystem and as a result has led to a decrease in biodiversity[1].

Urban growth has led to increasing waste generation. Waste and sanitation removal are issues that can be linked to unchecked urban growth such as is occurring on the West Coast (DEAT, 2005). The disposal of waste has high costs for both the economy and the natural environment. The problem of a lack of waste disposal areas has resulted in the destruction of increasingly large areas of natural space (DEAT, 2005).

Sustainability depends on the ability of the natural environment to assimilate waste. A problem faced throughout the world is the inability of the environment to 'keep up' with waste production and resource use. Resources are being utilised faster than they can be replaced and waste is being produced faster than it can be assimilated.

Other impacts are the more obvious visual and odour related issues. These impacts are relevant in that they damage the 'attractiveness' of a place, which has implications for both local residents and tourism.

The increase in the population of small towns on the West Coast has led to an increase in the amount of traffic on the roads. This traffic creates noise and air pollution, as well as creates safety risks for the fauna of the region (particularly tortoises).

An argument made by the developers of the region was that only about 5 percent of the entire west coast of South Africa has been developed. This percentage is roughly correct, but there is a slight problem with this statement. Although only about 5 percent of the coastline has been developed, the developments are concentrated to certain areas and generally take the form of linear developments along the coast.

[1] See section 7.1.1.

Linear development such as this is problematic for a number of reasons. Firstly, linear development such as this is often thought of as a form of urban sprawl and as such has similar impacts to those of urban sprawl described above. Secondly, linear development such as this cuts off all corridors of movement from inland to the sea-shore and vice versa. The *Coastal Zone Policy for the Western Cape* stresses the importance of new developments being concentrated into 'compact nodes' surrounded by ecological corridors. In doing so, the spatial impacts of developments are mitigated and the natural movement of organisms between inland areas and the sea-shore is not inhibited.

The growth of small towns on the West Coast is placing strain on the already limited supply of water in the Western Cape. According to the *State of the Environment Report for the Western Cape* (2005), the water demand in South Africa has been growing at 4.5 percent per annum since the 1930's. As a result of this, there has been a great deal of conflict between the need for water for ecosystem functioning and the need for water for human needs (DEAT, 2005). The Berg River water management area (the area supplied with water predominantly by the Berg River), could supply 676 million cubic meters of water per annum in 2004 (DWAF, 2004 in DEAT, 2005). At that time the demand for water by this area was 704 million cubic meters of water per annum. It is in this area that Paternoster, St. Helena Bay and Langebaan fall. This demand has grown since 2004 with the growth of towns in the region and has increased the gap between supply and demand. This will result in insufficient water for meeting the needs of both people and the natural environment.

Chapter 8: Conclusion

The economy of Langebaan is driven by tourism and the property market. The local economy of Langebaan has strengthened as a result of the growth as it is having direct positive effects on both tourism and the property market. Despite the positive effects on the economy of the town, the social environment has been negatively effected by the growth. The character of the town has not been maintained. The sense of place has been significantly altered and the historical members of the population feel that they do not 'belong' any more. These negative effects are the result of a growing population of 'outsiders' and changes regarding the historical architectural style of the town. The main negative biophysical environmental effects are a loss of green space, the construction of barriers such as fenced and roads that interfere with the movement of natural organisms and the increased activity within the natural environment. On the other hand, the tourism industry in the area is the primary source of revenue used for the conservation of the natural environment, particularly the West Coast National Park which is adjacent to the town. The growth of the tourism industry has therefore had positive effects on the natural environment.

The economy of Paternoster is heavily reliant on tourism. The growing tourism industry is therefore benefiting Paternoster's economy a great deal. Unemployment is a growing issue in Paternoster. This is due to the growing population, which is increasing the competition for work, as well as the seasonal fishing rights and quotas imposed by the Marine Living Resources Act (18 of 1998). The local women are benefiting from the growing number of homes in the area as they are getting domestic work. On the other hand, many of the men are still not benefiting from this growth as would be expected. This is primarily a result of a lack of relevant skills that would allow them to take advantage of the changes. The value of property in Paternoster has risen a great deal in recent years due to increased demand for it. The historical members of the population are therefore no longer able to afford property in the town. The land that does become available for purchase is far too costly and is generally bought up by developers and realtors. The intrinsic character of the town has been maintained. There are very strict regulations regarding the architectural style of the

houses in the area and this has conserved the sense of place of the town. Although there has been a loss of green space and the increased exploitation of natural resources, these effects do not appear to be particularly significant in the context of Paternoster.

St. Helena Bay was not prepared for the influx of people into the town. There are therefore problems regarding the provision of infrastructure, services and low-cost housing. As was the case in Paternoster, increasing property prices and taxes are forcing many of the local people to move out of the town. The rising number of more affluent people in the region has led to increasing costs of living, which has also negatively affected the lower-income members of the St. Helena Bay population. These lower-income groups have become marginalised and are not benefiting a great deal of the growth of the town. The work that is becoming available (in tourism, construction, business etc.) is being taken by outsiders that have the necessary skills. The architectural style of the town has not been maintained, which has resulted in a loss of sense of place and craft. There is plenty of development taking place in the town at present, which has resulted in the removal of all of the vegetation at certain sites.

There is no doubt that growth and development are necessary. Population growth is unavoidable and these growing populations require growing economies to maintain them. The growth of towns along the West Coast has made large contributions to their local economies. Despite the obvious economic advantages of this growth, it is also placing a burden on the Saldanha Bay Municipality and the resources of the towns. The growth of these towns requires new infrastructure and the improvement of old infrastructure. It also requires the upgrading of local amenities and the construction of low-cost housing to provide for the rapidly expanding population of low-income people. Efforts are being made by the provincial government and the local municipality to ensure that they are prepared for the rapid expansion of these towns, but as of yet, there are still significant housing backlogs and the amenities and infrastructure of many of the coastal towns cannot cope.

The growth of the small towns on the West Coast is resulting in the loss of a great deal of green space. The strandveld vegetation that is predominant on the West Coast is becoming increasingly threatened by urbanization and urban sprawl. It is vitally important that steps are taken in order to prevent this urban sprawl and the linear coastal development prevalent on the West Coast. The recognition of urban sprawl as a major environmental issue in the Western Cape has resulted in the Department of Environmental Affairs and Developmental Planning developing a set of guidelines that are aimed at preventing it. It is of vital importance to the biophysical environment of the West Coast that these guidelines are implemented when planning future developments.

Development is generally regarded as an essential means of alleviating poverty. Many see the assuaging of poverty as being in direct conflict with the conservation of the natural environment, but this does not necessarily have to be the case. In the *Sustainable Coastal Livelihoods Study* the following statement was made: "[p]overty alleviation does not necessarily mean that natural resources and environmental quality have to be compromised" (Glavovic *et al,* 2002. pg. 4.). This study outlines the following priorities regarding the future of coastal regions:

- The developmental potential of State-owned coastal assets must be identified and utilised.
- Ports, harbours and related facilities should be developed and improved. This will result in sectoral investment and job creation.
- Coastal tourism, leisure and recreational developments should be implemented in a pro-poor manner.
- Commercially viable and sustainable mariculture ventures should be promoted.
- Positive relationships between the managers of coastal protected areas and authorities should be promoted. These partnerships must do all they can to

ensure that neighbouring coastal communities are benefited whilst ecological integrity is sustained.

- Degraded coastal areas and resources should be rehabilitated. The rehabilitation should result in job creation and ensure the sustainability of the resources upon which people are reliant.

These priorities indicate that development and growth are necessary for economic growth and the alleviation of poverty. They also allude to the need for this development and growth to take place in a manner that not only benefits the local economy, but also the social and biophysical environments. Growth on the West Coast in recent years has focused on positively effecting the economic environment, but this has at times been at the expense of the social and biophysical environments.

The growth of towns on the West Coast has provided more business and employment opportunities. This has benefited the livelihoods of many people in the region. The changing of the livelihood strategies of many of the poorer people from reliance on natural resources to tourism and industry has increased their livelihood security a great deal. The women of these towns are benefiting a great deal from the growing residential areas in which they obtain work as domestic workers.

Despite the new opportunities becoming available to the lower-income residents of the towns, many of these people are unable to benefit from these opportunities. This is because their livelihoods have historically relied on the extraction of marine resources. They therefore do not have the skills needed for them to find employment in the developing industries such as tourism and construction. These jobs, especially those in the construction industry, are typically taken by people that do not live in the towns themselves.

Increased linkages with other towns in the region, in conjunction with more money being available to many people, has resulted in the increased use of drugs and alcohol in many of the smaller towns. This is having negative effects on the social stability of

these towns. There has also been a marked increase in crime in these towns in recent years. This is due to both a lack of employment opportunities and an increase in the number of more affluent people living in the towns. Many of the residents of these towns see safety as a positive attribute of these towns that is being degraded as a result of growth.

The historical communities of these towns have in the past been characterized by a strong sense of social cohesion and have had strong ties with their local environments (biophysical and built). The growth of a number of the towns on the West Coast has resulted in the breakdown of social cohesion and a loss of topophilia (ties between people and their environment). Social cohesion is an important component of social capital, which is an important livelihood asset. A loss of topophilia has resulted in a loss of a sense of belonging in certain towns. The growing populations of outsiders and changing sense of place in a number of towns has resulted in the historical communities being marginalized.

The developments in the region benefit the middle-to-upper income members of the local population a great deal more than they benefit the poorer members. These more affluent people are able to afford the increasing property prices and tax, and have the skills necessary for taking advantage of the changes taking place.

It is important that further growth in the region is influenced by the *Coastal Zone Policy for the Western Cape.* The policies and principles outlined in this document are aimed at ensuring growth that does not compromise the economic, social and biophysical environments of the region.

The economic benefits of growth are easily noted, as are the negative effects on the biophysical environment. What has become evident in this study are the negative effects of this growth on the social environments in the region. The poorer members of the population are being marginalised and are benefiting far less than they should be. Development and growth are necessary, but their needs to be more stringent

control on how it takes place. The developments in the region need to be more sustainable and need to benefit ***all*** members of the population rather than a select few.

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(vi) Appendices

Appendix 1: Residents' questionnaire

1. Occupation: _____
2. Area in which you live_____
3. For how many years have you lived in the Saldanha Bay Municipality?_____
4. For how many years have you lived in your present home?_____
5. What do you most like about living in this area?_____

_____
_____
_____

6. What do you dislike most about living in this area?_____

_____
_____
_____

7. What changes are occurring due to so many new people moving into the region?

_____
_____
_____

8. Do you feel that the growth in the region is improving or damaging the local economy?
Improving / Damaging
How?_____

_____
_____
_____

9. In your opinion:
a) what people are benefiting from the new development in this area and how?

_____
_____
_____

b) what people are being negatively impacted by the new developments and how?

_____
_____
_____
_____

10. Do you think that the impacts of the developments on the environment are significant?
Y/N

_____
_____
_____
_____

Appendix 2: Municipal workers' questionnaire

1. Name_____
2. Occupation: _____
3. Where do you live? _____
4. Time spent living in the Saldanha-Vredenburg region_____
5. In what ways is growth in the Saldanha-Vredenburg region:
a) improving the local economy?_____

_____

_____

b) damaging the local economy? _____

_____

_____

6. In what ways is growth in the Saldanha-Vredenburg region:
a) improving the local living environment?

_____

_____

_____

b) damaging the local living environment?

_____

_____

_____

7. What changes are occurring due to so many new people moving into the region?

_____

_____

_____

8. a) In your opinion, what people are benefiting from the new development and how?

_____

_____

_____

b) In your opinion, what people are being negatively impacted by the new development and how?

_____

_____

_____

9. Do you think that the impacts of the developments on the environment are significant? Y/N

_____

_____

_____

Appendix 3: Contact details of Municipal workers

Table 24: Contact details of Municipal workers.

Name	Municipal department or function	Contact number
Mr. A. Adams	Electricity	022 701 7096
Mr. S. Fordom	Housing	022 701 7000
Mr. L. Gaffley	Town planning	022 701 7114
Mr. M. Meiring	Strategic information officer	022 701 7119
Mrs. Meiring	Municipal clerk	082 611 0004
Mr. W. Titus	Water & sanitation	022 701 7047

Appendix 4: Occupations of residents interviewed

Table 25: Occupations of the residents interviewed in Langebaan.

Occupation	**Number of people interviewed**
Unemployed	3
Retired	3
Waitress	1
Estate agent	3
Shop owner	3
Domestic worker	1
Industrial worker	2
Cleaner	1
Fisher	1
Instructor (sailing academy	1
Total	**19**

Table 26: Occupations of the residents interviewed in Paternoster.

Occupation	**Number of people interviewed**
Unemployed	3
Retired	2
Fisher	3
Odd-jobs	1
Factory worker	3
Domestic worker	2
Shop assistant	1

Table 27: Occupations of the residents interviewed in St. Helena Bay.

Occupation	Number of people interviewed
Unemployed	4
Harbour worker	3
Scholar	1
Shop worker	3
Fisher	5
Security guard	1
Hotel manager	1
Bookkeeper	1
Police officer	1
Library assistant	1
Total	**21**