

COASTAL LIVELIHOODS IN THE REPUBLIC OF SOUTH AFRICA

GENERAL INTRODUCTION

The Agulhas and Somali Current Large Marine Ecosystems (ASCLME) project is focused on the two large marine ecosystems of the Western Indian Ocean (WIO) region, covering nine countries that are directly influenced by these current systems. It is estimated that at least fifty-six million people are reliant either directly or indirectly on the goods and services provided by these two current systems. The ASCLME project aims to support these countries in their efforts to collectively manage the marine resources on which their people and economies depend. Fisheries and other key coastal activities, including various forms of tourism, aquaculture, shipping and coastal transport, the energy sector, agriculture and forestry, are very important contributors to the economies of the countries of the WIO. In recognition of the complexity and importance of these activities, a Coastal Livelihoods Assessment (CLA) component was developed for the ASCLME project.

The CLA component had three main objectives:

- to collect as much existing information as possible about the main coastal activities in the nine participating countries as a contribution to the national Marine Ecosystem Diagnostic Analyses (MEDAs);
- to make input into ensuring that this information is stored and organised in a manner that will allow easy access and maximum utility to multiple stakeholders, both during and after the lifetime of the ASCLME Project;
- to review and synthesise the information collected in order to provide useful inputs to the TDA and SAP processes.

In order to achieve these objectives, the CLA component was separated into three distinct phases, with the first phase kicking off in May 2009. During phase one, a “desktop” review of available data was conducted by the regional project coordinators, input was made into the design of a literature management tool to facilitate the storage of information, and preparations were made for the in-country data gathering process. Planning meetings were held between the core CLA team and the in-country Data and Information (D+I) Coordinators in August 2009. The processes involved in the in-country component of recruitment and data gathering was discussed and confirmed at this stage.

Phase two involved in-country personnel having been identified and recruited through a regionally inclusive recruitment process. Nominations were invited and received from country focal points and D+I Coordinators. Twenty three consultants were recruited to assist with the project. For some sectors international experts (drawn from the region where possible) were asked to provide information for all countries in the region while in others, where good local capacity existed, in-country consultants were recruited. This group of consultants collected information from existing resources, such as published articles, government reports, regional reviews, project reports and outputs, policy documents as well as a range of other grey literature that was likely to be useful.

Phase three involved the organisation of the information into country Coastal Livelihood Reports where individual sector reports have been assessed and the key elements from each sector extracted and presented in a summarised format. These country reports will be reviewed by project representatives in each country and once accepted, will be incorporated as a separate

Coastal Livelihoods chapter in the overall country MEDA documents. It is anticipated that the information collated in these reports will allow examples of best-practice to be identified for application in other parts of the region. The objective is to build on approaches that work rather than to duplicate efforts. Information gaps will be identified and addressed in subsequent phases of the ASCLME, including during a Cost/Benefit Analysis (CBA) exercise designed to weigh up the costs and benefits of various development options. Key information from these reports will feed into the CBA and hopefully provide useful guidelines for the Transboundary Diagnostic Analysis (TDA) and the development of Strategic Action Plans (SAP) for the overall ASCLME project.

The following country report begins with an overview of coastal livelihoods in South Africa, which provides a concise overview of the seven sector reports and the findings of the in-country and regional consultants. This overview ends with a conclusion which summarizes the collected information as it relates to the coastal zone in South Africa in general. This overview is followed by the more detailed sector reports, which represent the original contributions by the in-country and regional consultants. The sectors are organized in the following order: Small-scale Fisheries, Tourism, Mariculture, Agriculture and Forestry, Energy, Ports and Coastal Transport and Coastal Mining.

Each sector report has been prepared by specialists in that particular sector drawn either from the country or internationally. Sector reports have been prepared according to a pre-determined template to ensure that the relevant aspects of that sector were captured by the consultants. Reports include descriptive sections on the biophysical environment, human environment, policy and governance, planning and management, and development, trade and projects related to that sector. Each report is concluded with a SWOT analysis which provides a summary of the Strengths, Weaknesses, Opportunities and Threats facing that sector. It is the outputs of these SWOT analyses that are of particular importance to the strategic planning aspects of the overall ASCLME project. These reports were initially submitted to the regional coordinators for review and have subsequently been corrected and updated by the consultants themselves.

Finally, each sector report has a bibliography containing key references and links to relevant information. Full details of the information resources collected during compilation of each sector report, as well as electronic copies of literature (where available), are included in the overall ASCLME reference management system.

OVERVIEW OF COASTAL LIVELIHOODS IN SOUTH AFRICA

I. Small-Scale Fisheries

At a policy and regulatory level, small-scale fisheries in South Africa have traditionally been included with the commercial, recreational and subsistence fisheries under the Marine Living Resources Act, which largely defined the small-scale fishery as an activity based around basic food security. Due to this generalization, specific data on the sector is scattered, however, it has been estimated that nearly 100,000 people are directly involved in the sector, while upwards of 28,000 households are dependent on subsistence fisheries. The commercial fishery, which also includes some aspects of the small-scale sector (for example west coast rock lobster and traditional linefish), contributes 0.5% to GDP and brings in R80 billion annually. As a whole, small-scale fishing along the east coast has traditionally focused on shore-based activity as a means of livelihood, while small-scale fishers along the west coast have normally been drawn into the commercial fishery.

The failure to govern the small-scale fishery as a distinct sub-sector, along with a number of other factors, has produced several constraints around management of the sector. For example, a lack of capacity building programmes and local management plans recognizing the uniqueness of the small-scale sector, as well as ineffective top-down management and a failure to protect the sector from the industrial sector, all highlight the challenges around policy and management in small-scale fisheries. Low levels of compliance, poor information dissemination to a local level, as well as a lack of trust among coastal communities of the fisheries authorities in general, also indicate a failure to effectively manage this sector in the past. Issues around capacity have also been raised, particularly evident in the lack of enforcement, insufficient surveillance techniques, poor post-harvest support and structures and the failure of past co-management schemes. There are, however, strengths that can be utilized to mitigate some of these issues. For example, good local knowledge of fishing grounds, the country's strong marine science research capacity, as well as links within the sector to international NGOs, all highlight attributes that could be employed to improve management in the sector. Likewise, high productivity and biodiversity, along with the country's long coastline and relatively well understood marine ecosystems, are clearly great strengths that could be built upon moving forward. Of particular note is the example of effective co-management systems that have been set up and maintained over at least a decade in the Province of KwaZulu Natal. These examples of best practice could be replicated in other parts of South Africa.

As of 2010, a draft policy has been designed solely for inshore small-scale fisheries with the aim of addressing pre-harvest, harvest and post harvest activities, which has the potential to advance co-management structures and place greater emphasis on the role of the post-harvest sector in local development. There are also other economic opportunities highlighted in the report, evident in the potential to diversify market share through value-adding, the potential to begin marketing traditional products in the tourism sector, as well as the opportunity to tap into surging domestic and international demand for fishery products. Nevertheless, conflicts among resource users, political interference and a general lack of strong direction in policy and planning, does pose a threat to the implementation of the new policy.

II. Tourism

Tourism is the third largest contributor to GDP, the fourth largest source of foreign exchange and accounts for 7.4% of all jobs in South Africa, making it a vital sector in the country's economy. Tourism is also one of South Africa's fastest growing sectors, with contributions to the national economy growing from 4.6% in 1993 to 8.3% in 2007, while foreign arrivals and revenue from foreign tourism increased by 7.8% and 23.4% respectively between 2007 and 2008. Domestic tourism is also vibrant, generating R16 billion annually, making up 67% of all activity in the sector. Provincially, Gauteng and Western Cape are the most frequented destinations for foreign travelers, while KwaZulu Natal is the largest beneficiary in the domestic market.

While growth in tourist activity has been rapid, numerous challenges are still prevalent in the sector. For example, the seasonal-based fluctuations in activity, along with the over-dependence on tourism as a means of promoting economic development, particularly in coastal communities, has clearly become problematic. Similarly, weak capacity at the provincial and municipal level has made local governments ineffective in promoting further development, while community tourism still remains a supply-driven industry with a lack of value chain distributions within community structures. Crime, and the perceptions that accompany it, has also been in-conducive to growth in the sector, as has the failure to enhance linkages between business and both the formal and informal aspects of the sector. These constrictions should not, however, overshadow

the positives inherent in the sector, particularly the ability of tourism to economically empower historically-disadvantaged populations. The country's extensive bio-diversity, long scenic coastline and favorable climate should also facilitate the perpetuation of growth patterns into the future, irrespective of the aforementioned challenges.

As a whole, it is clear that the abundance of opportunities in tourism magnifies the untapped potential prevalent in the sector. For example, there are clear opportunities to extend the season of enterprises, which would also bring more stability to associated labor markets. Likewise, the potential for commercial enterprises to tap into the market around historically disadvantaged populations, as well the opportunity to develop joint-ventures with communities in a participatory manner, highlights the extent to which the potential of the tourism sector has been partly unrealized. Given the present growth rates in the sector, there is also a significant opportunity to engage foreign entrepreneurs, as well as opportunities for the government to take great steps in redressing socio-economic imbalances along the coast. In all cases, it is thus clear that tourism has the potential to not only provide meaningful employment, but also has the potential to socially and economically empower historically disadvantaged communities in the coastal zone.

III. Mariculture

Medium and large-scale mariculture activity is well established in South Africa, with commercial farming prevalent in abalone, seaweed, mussels and oysters, and pilot commercial projects underway in dusky kob, silver kob and yellowtail finfish. Research is also ongoing for the production of clownfish, white margined sole, west and east coast rock lobster, scallop and blood worm. Small-scale production is, however, scarce in the country, as most projects are being developed by the private-sector with an emphasis on pump ashore systems. This lack of small-scale production has been attributed to several factors, including poor environmental conditions, inadequate participatory approaches, poor fish growth, very low returns, lack of interest and neglect. Medium and large-scale farms are, nevertheless, providing employment outside urban areas, particularly in the Eastern and Western Cape.

There are constraints documented in the sector, many of which are constricting the development of small-scale operations. For example, the high energy nature of the country's coastline makes sea-based culture systems capital intensive and technically difficult to develop, which makes small-scale development costly and unfeasible. Likewise, because of these factors, the potential for small-scale development in rural communities remains very weak, which is even further problematic considering the high barriers to entry and the excessive competition between resource users in the sector. Legislation, permitting and the approval process is also very confusing in the sector, which is again a barrier to small-scale investors, while compliance with environmental legislation has also become burdensome for the medium and large-scale producers active in the sector. Improved coordination from government is, thus, essential in order for the sector to move forward.

Despite these constraints, there are many strengths and opportunities in mariculture that can be capitalized on in the future. For example, good infrastructure, technical expertise in the country's universities, training in aquaculture at the tertiary level and a suitable climate on the coast all highlight the positives that could be utilized to develop the sector. Likewise, opportunities for community-based and land-based finfish production, as well as further opportunities for commercial farms in rural areas, highlight the great potential that is inherent in the sector, particularly in providing employment to rural communities. Mariculture development nodes are also being developed, which in conjunction with the credible policies being constructed by the

government, should facilitate further private-sector interest in the sector. Culture-technologies are also being developed around new species which, along with the potential for expansion in the abalone sub-sector, highlights the opportunities for further development. Hence, with proper financial support measures and a national development strategy, mariculture can certainly meet its productive potential in the coming years.

IV. Agriculture and Forestry

Agriculture and forestry in the coastal zone is utilized for both subsistence and commercial purposes, with the value of benefits from its goods and services on a national level estimated to be equal to 35% of GDP. The forestry sector alone accounts for 4.1% of total export earnings, while deciduous fruit exports account for 15% of total agricultural export earnings. Livestock production and the dairy industry are also significant sub-sectors, with 4,300 milk producers employing an estimated 60,000 workers and indirectly providing employment for an additional 40,000 people. The slaughter of broilers and other fowls also grossed nearly \$1.24 million USD in 2001, making it the most important contributor to the value of agricultural production in South Africa.

25% of South Africa's population lives within 60km of the coastline and 70% of this population is considered poor. Thus, great pressure is inevitably being placed on coastal resources, which is leading to degradation and depletion. Commercial forestry also has the potential to have a severe impact on biodiversity and disrupt sensitive habitats in the coastal zone, which would also have a significant impact on alternative income generating activities by coastal rural communities. Attempts to mitigate the over-exploitation of coastal resources have also been constrained by weak infrastructure and weak capacity in rural communities, which has made national policy relatively ineffective. The effects of land reform, particularly on ownership, also remains unclear, while it has also been suggested that the established private-sector actors on the coast may not respond well to current policies favoring participatory resource management.

Despite these obstacles, several positives can be seen in the sector. For example, strong exports, as well as a vibrant economy based around urban centers in the coastal zone, should ensure issues pertaining to coastal development will be focused on at high policy levels. Likewise, the potential to expand tourist activity and develop non-traditional high value crops highlights the opportunity for growth in substitute sectors in the coastal region. Similarly, participatory forest management, particularly the new concept of forestry outgrowers, not only highlights the ability of local communities to work in conjunction with commercial forestry operators, but also highlights the commitments being made to empower local communities to manage the resources they depend on. Thus, while poverty and an over-dependence on coastal resources remains problematic, there are strengths and opportunities in the agriculture and forestry sector that can be utilized to promote sustainable socio-economic development in the coastal zone.

V. Energy

The petroleum industry contributes 2% to GDP, providing direct and indirect employment for over 100,000 people and over R34 billion in tax revenue to the government. The country produces 35,000 bbl/d of oil, with proven reserves estimated to be 15 million barrels, and also produced 115 billion cubic feet of gas in 2008, with reserves estimated to be 320 billion cubic feet. South Africa also has Africa's second largest oil refinery system, comprised of four refineries and two synfuel plants producing 692,000 barrels per day (bbl/d) in 2008. Coal is, however, the most dominant source of energy, providing for 75% of primary consumption.

Activities in biofuels are marginal, as the country is not yet involved in large-scale biofuels production.

Numerous strengths and opportunities have been identified in the sector, despite the low level of activity in some sub-sectors. For example, not only are four biofuels projects currently being planned with the support of a Biofuels Industrial Strategy, but a new crude refinery near Port Elizabeth, Africa's largest, is to be completed by 2015, which is expected to provide nearly 18,500 permanent jobs and 27,500 jobs during construction. The country also has the technical and financial capacity to support agribusiness for biofuels, which could assist in meeting projected energy demand, while the country's strong economy, skilled workforce and sound environmental legislation provides a solid base for developing the energy sector. Companies in the sector are also contributing to development at the community level. For example, Petro SA, Chevron, Sasol and Engen all support various programs around schools and education, while BP is supporting community-based job creation enterprises such as the Scarborough Fishermen's Company in Ocean View. Chevron, BP and Total have also been supporters of various HIV projects, as well as multiple environmental awareness campaigns.

A number of constraints have, however, been highlighted in the sector. For example, poor rural infrastructure and a lack of capacity at the local level continues to constrict the sustainable development process, while limited land availability has been identified as a clear constraint for the development of biofuels. Biofuels development could also negatively affect food security, while an abundance of maritime activity in oil and gas leaves the country's coast vulnerable to spills. Poverty and intense disparities in wealth have also been highlighted as constraints, as not only does the latter make national policies difficult to implement, but the former reduces livelihood opportunities for coastal communities, which facilitates the overutilization of natural resources. Despite these obstacles, growing energy demand is expected to incentivize development in oil, gas and biofuels respectively, which has the potential to not only provide extensive employment opportunities for formerly disadvantaged coastal communities, but also shift labour away from the more deleterious, resource-intensive income generating activities.

VI. Ports and Coastal Transport

South Africa has six major commercial ports, all of which are connected to inland areas through road and rail. Durban is the largest point for imports and exports to and from inland South Africa, while the port at Richards Bay is the country's largest bulk port. Port Elizabeth is the Eastern Cape's busiest port, handling ore transports from the Northern Cape and providing container services for the city's vibrant automobile industry, while the port at Mossel Bay is almost solely dedicated to the handling of petroleum products. The port in East London mainly serves the Border and Transkei areas, while the port in Ngqura has largely been developed as a catalyst for industrial development. Ports, terminals, as well as the country's rail services, are all state-owned and operated by Transnet National Ports Authority, while road transport is provided and maintained by the private sector.

Many of the challenges and constraints identified in the sector are, for the most part, facilitated by the monopoly maintained by Transnet in the sector. For example, inefficiencies are clearly abundant in ports and rail services and over-regulation of the sector continues to deter private-sector investment, both of which have led to a loss of competition in relation to the less restrictive transport sectors in Namibia and Mozambique. Transport policy has also heavily favored road haulage, which has facilitated the decline of rail services, most evident in the inability of the rail services to meet increased demand during the recent pre-recession global economic boom.

Government policy towards black economic empowerment, while clearly designed with good intentions, has also led to a loss of skills in the sector, which further perpetuates the inefficiencies noted above. Government control of the sector has also led to heavy unionisation in the sector, which could hamper development in the future. Political patronage, corruption and fiscal constraints have all also been highlighted as major threats and weaknesses prevalent in the sector.

Many opportunities are, however, apparent in the sector, despite the challenges aforementioned. The potential for industrial development around the Ngqura port, as well as an expanding container trade in Durban and Cape Town have been identified as opportunities. Likewise, the country's well developed cargo clearing and handling services will continue to support imports and exports, while the long term shift of manufacturing activity to the coast should facilitate more efficiency in coastal transport services. Similarly, current capital constraints in the government and Transnet has the potential to induce some concessions and privatization, which would be fruitful in terms of competition and efficiency. The country also still maintains the largest general cargo port in the Southern Hemisphere in Durban, as well as a highly efficient road transport, both of which are strengths to build upon. Thus, despite the constraints posed by the Transnet monopoly, the ability of the sector to accentuate economic activity, particularly in the larger urban centers on the coast, should allow the sector to realize its full potential in the future.

VII. Coastal Mining

South Africa has the world's largest reserves of chrome, gold, vanadium, manganese and platinum group metals, making mining the most dominant sector in the country's economy. In 2008, mining accounted for 9.5% of GDP, 41% of total exports and employed over half a million people. On the west coast alluvial diamonds are recovered both in the coastal zone and further offshore and forms the basis of a significant industry. However, on the east coast, mining activity is less prevalent in the coastal zone, focused around heavy mineral sand mining near Richards Bay and elsewhere in KwaZulu Natal, and limestone for cement.

Much of the mining activity on the east coast is also being utilized as a means to develop adjacent communities. For example, Richards Bay Minerals has implemented a Black Economic Enterprises program, which has helped historically-disadvantaged populations develop small-businesses and supply goods and services, now worth \$61 million USD, to Richards Bay Minerals. Similarly, Pretoria Portland Cement has also developed employment and skills in the New Brighton Township with the Latita soap making project, while Exxaro, Lafarge and Natal Portland Cement have all done work focusing on education in disadvantaged communities. All mining activity along the coast also provides the government with taxes and royalties, which could be utilized to support social services in adjacent communities.

Coastal mining does, however, face numerous challenges, despite the socioeconomic benefits aforementioned. For example, water pollution and waste has become problematic around all mines, and electricity shortages, particularly in 2008, have caused massive losses in production. Likewise, as mines get older, costs go up and yields inevitably shrink, which will also facilitate decreases in production. Federalism, as well as the prospects for nationalization in the sector, have also been highlighted as threats in coastal mining. However, these challenges should not overshadow the prevalent opportunities and the overall socioeconomic value of the sector. For example, the potential for heavy sand mining in the Transkei, the country's strong coastal zone development policy and the presence of investment agencies in each province magnifies the strengths and opportunities apparent. Likewise, the strong tradition of mining, the abundance of mineral resources and the government's commitment to the sector all highlight the support

existent in the sector. Thus, while decreases in production and environmental challenges remain problematic, the ability of the sector to reinforce the country socially and economically is clearly well pronounced in the report.

Conclusion

As a whole, the report has clearly identified a number of strengths and opportunities across several sectors that could be supportive to sustainable socioeconomic development in the coastal zone. South Africa is the largest economy in Africa and has the potential of both further developing its own economy and that of the region, if development is approached in a responsible and sustainable manner.

Coastal management efforts in South Africa have undergone a dramatic transformation in recent decades: from a bureaucratic and biophysical focus towards an approach rooted in participation, empowerment and the promotion of sustainable coastal livelihoods. Confronting poverty is arguably the most important and challenging issue for the South African Government. The goods and services derived from South Africa's coast have an important contribution to make in meeting basic needs and improving the well-being of coastal communities. South Africa in many sectors is attempting to utilise the Sustainable Livelihoods approach to foster more people-centered, pro-poor, integrated coastal management (ICM). The Sustainable Livelihoods approach complements and enriches ICM and could help to bridge the gap between sustainability rhetoric and the reality facing poor coastal communities.

One clear strength prevalent across sectors is the natural diversity and robustness of the country, both in terms of natural heritage and population. For example, the country's extensive biodiversity, long coastline and favorable climate have all been identified as great strengths in the tourism sector, as have its cultural diversity. Similarly, suitable environmental conditions have been documented as being highly conducive to mariculture development, while both the natural and commercial coastal forestry sectors has been highlighted as strong export earners and employers. The abundance of mineral resources has also been documented, as well as the opportunities for large scale industrial development supported by an excellent transport network and infrastructure. The development of new and innovative policies in the small-scale fisheries sector for example has the potential to allow better access to resources for small-scale fishers and also improved management of these resources.

Nevertheless, the natural strengths of the country are being threatened by several factors. One constraint highlighted in some sectors are the obstacles posed by excessive regulation. For example, the lack of small-scale investors in mariculture has been partly attributed to the constraints and confusions surrounding legislation, permitting and the approvals process, while compliance with environmental legislation has been identified as highly burdensome for medium and large-scale companies in mariculture as well. In ports and coastal transport, the monopoly held by Transnet has not only reduced efficiency and overall competitiveness, but it has allowed patronage to filter into the sector. Corruption and poor policy has also been highlighted as a challenge in the sector, while the potential nationalization of some of the country's mines has been identified as a threat in the coastal mining sector. Yet, despite these cases of poor governance, the government has also been the source of numerous positives in the coastal zone. For example, the institutionalization of participatory forest management will be vital in empowering local communities to manage their own natural resources, while solid infrastructure and government support have both been highlighted as strengths in mariculture. Likewise, in the

coastal mining sector, government support, provincial investment initiatives and a credible coastal zone development policy have all been highlighted as great benefits moving forward.

Another positive notion highlighted in the report is the potential for further socio-economic development and employment in coastal communities. In tourism alone, the potential to extend the season of enterprises, form joint-ventures with communities and tap into the market around historically disadvantaged populations is very promising in terms of potential to generate employment. In mariculture, the potential to generate investment and employment in rural communities is seen as an opportunity for coastal populations. Likewise, expanding container operations in Durban and Cape Town, as well as the development of the port in Ngqura, could both be highly beneficial to adjacent local residents, while the potential for heavy sand mining in the Transkei is certainly encouraging for the region. Similarly, extensive employment opportunities have been highlighted throughout the energy sector, particularly prevalent in the development of biofuels, as well as in the construction of a new refinery near Port Elizabeth. These opportunities will however need to be developed in a sensitive and responsible manner to ensure their success into the future.

Ultimately, it is clear that in order to realize these opportunities and capitalize on the country's strengths, commitment from government, civil society and the private sector are all required, as none of these is capable of facilitating sustainable socioeconomic development in the coastal zone alone. Sustainable Coastal Livelihoods initiatives need to be promoted, with the goal to identify non-consumptive or alternative methods of utilizing coastal resources. By combining the resources and knowledge of the government, private sector and civil society, coastal communities can be empowered to co-manage their own resources and develop alternative streams of income, which can potentially not only reduce the pressures being placed on coastal resources, but could ultimately be instrumental in reducing poverty in the coastal zone.

DETAILED SECTOR REPORTS

I. Small-Scale Fisheries – Prepared by Dr. Serge J.P.N. Raemaekers,
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1. Introduction

South Africa's fisheries zone extends seawards from the coastline for 200 nautical miles. The cold waters on the western side of the country are highly productive and support large numbers of commercially important fish, including shoaling species such as pilchard and anchovy, deep-sea species such as hake, sole and kingklip, as well as healthy stocks of rock lobster. Most commercial fishing activities in the country are observed along the western and more temperate southern coastal regions. In contrast, the warm waters of the East coast support fewer fish of large-scale commercial importance, although the number of species that occur on this section of coast is much higher. Small-scale fishing communities occur along the entire coastline of the country. Recreational fishing is undertaken in the inshore waters as well as in estuaries along the coast.

South Africa's marine fish resources are currently regulated and managed in terms of the Marine Living Resources Act, 18 of 1998 (MLRA), a host of input and output regulations, a general commercial fisheries policy (2005) and 21 commercial fishery sector fishery policies. While the Marine Living Resources Act (1998) (MLRA) is the overarching legislation governing fishing in South Africa, it has been recognised at the Constitutional level that it does not adequately address the issues that are particular to the small-scale fishing sector. In September 2010, a draft small-scale fisheries policy was therefore gazetted for public comment. This policy intends to develop governance arrangements for South Africa's inshore small-scale fisheries and may substantiate amendments to the MLRA¹ as well as a revision of the relevant commercial fishery sector fishery policies.

Until May 2009, the marine fisheries management authority was vested in the Minister of the Environmental Affairs and Tourism and the branch Marine and Coastal Management located within the national Department of Environmental Affairs and Tourism. Effective from the outcome of the April 2009 National Elections, marine fisheries management now vests within the Minister of Agriculture, Forestry and Fisheries in the Department of Agriculture, Forestry and Fisheries (DAFF). The fisheries authority is based in Cape Town, with a few satellite offices located in the four coastal provinces of the country, that are mainly tasked with Monitoring, Control and Surveillance duties. Fisheries scientists within the Department - who for the most part are biological scientists - advise management on Maximum Sustainable Yield, Total Allowable Catches, Total Allowable Effort and input controls such as size limits and bag limits. Aspects related to biodiversity conservation (including Marine Protected Areas) and Integrated Coastal Zone Management are governed by the national Department of Environmental Affairs (DEA).

South African law prohibits the harvesting of any marine fish without the authority of a fishing permit. Between 2004 and 2006, the Minister of Environmental Affairs and Tourism allocated approximately 3000 long-term commercial fishing rights to companies and individuals, across 21 commercial fisheries, which included both large-scale industrial and certain small-scale fisheries²(Table 1). The fishing rights allocated are valid for varied periods of between 2 and 15 years.

¹ The MLRA does only recognise subsistence fishers as a distinct category alongside commercial and recreational fisheries (See section on policy and governance).

² As defined by the FAO and the new South African draft small-scale fisheries policy (See below).

Table 1: South African fisheries managed within the commercial sector

Industrial fisheries	Inshore small-scale fisheries governed as per the commercial sector
Hake Deep Sea Trawl	West Coast Rock Lobster (nearshore)
Hake Inshore trawl	Oysters
Hake Longline	Traditional Line fish
Small Pelagics (sardine purse seine)	Net fisheries (beach seine and gillnets)
Large Pelagics (tuna and swordfish longline)	Abalone
South Coast Rock Lobster	White Mussels
Shark demersal	Seaweed (although historically not commercially harvested by small-scale fishing communities)
West Coast Rock Lobster (offshore)	
Squid	
KZN Prawn Trawl	
Patagonian Toothfish	
Horse Mackerel	
Tuna Pole	Certain small tuna pole boats could be considered small-scale (see Annex 1)
Hake Handline	

In 2010, it was estimated that the commercial fishing industry made an annual turnover of approximately R80 billion³ and contributed 0.5% of the Gross Domestic Product⁴. Catch in the South African commercial fisheries sector was estimated at approximately R5-6 billion per annum. The commercial

³ South African Rand (ZAR or R) is the recognised currency of South Africa

⁴ Minister of Agriculture, Forestry and Fisheries, Ms Tina Joemat-Petersson in her Budget Vote speech, 13 April 2010.

fishery sector is estimated to provide direct employment to 27 000 people and indirectly to another 81 000. These numbers only include certain small-scale fisheries that have been mainstreamed into the commercial sector (refer to Table 1).

There are, however, a host of other small-scale fisheries characterised by the use of low-intensity gears and the targeting of multiple species, that support local economies and food security (Raemaekers, 2009). Few data exist for these fisheries. Despite the allocation of long-term rights in 2005 and the onset of the small-scale policy development process, the identification of fisheries in South Africa that fit within the definition of small-scale fisheries - as defined by the FAO and the new draft small-scale fisheries policy - had previously not been undertaken. Recently, however, the identification of such fisheries was described in an assessment of the potential of South African small-scale fisheries to obtain Marine Stewardship Council (MSC) Certification (MSC, 2010). The list of these fisheries (defined by species, species group, geographical location and gear usage) is presented in Annex 1. Many of these fisheries are still informal, operate under the regulations for recreational fisheries, or have only certain components recognised by the fisheries authority. Certain small-scale fisheries are managed as experimental fisheries, while others are governed within the subsistence sector as defined by the MLRA (Act 18 of 1998; see further below). It is envisaged that the forthcoming small-scale fisheries policy will provide the overarching framework for the governance of all identified fisheries.

2. Biophysical

The South African sub-continent is situated between the Atlantic and Indian oceans, with a coastline that is more than 3000 km long. Due to the geographic position of the subcontinent, the coast has three distinct biophysical regions: the West, South and East coasts. This division is mainly due to differences in landform, weather patterns and ocean character. The differences in physical character are also reflected in the distribution of plants and animals, particularly in the coastal waters, but also on land. The three regions can be distinguished with markedly different water temperatures, giving rise to very different communities of plants and animals:

The West coast is bathed by the cold Benguela Current whose coldness (9–15 °C) is derived from the periodic upwelling of cold bottom water, as it flows northwards along the coast. The upwelled water is rich in nutrients which results in high biological productivity in these coastal waters, with relatively few species but a great abundance of fish, lobster, seabirds and seals. Semi-desert conditions exist on land.

On the East coast, the Agulhas Current is a powerful ‘river’ of warm water (22– 27 °C) that flows southwards from the tropical waters off Mozambique, creating a favourable environment for coral reefs, mangrove swamps and coastal forests. It has relatively low nutrient levels so there is much less biomass than on the west coast, but many more species.

The south coast is an intermediate zone between the west and east coasts (16– 20 °C), and experiences a high diversity of conditions and many endemic species.

3. Human environment

Small-scale fishers and fishing communities

The South African coast embraces a rich heritage of biodiversity and a wide variation in marine ecosystems and this is evidenced in the differences in the way in which human settlements have interacted over time with the marine environment along the country’s shores. All along the South African coastline, men, women and children living in coastal communities have historically harvested a range of marine

resources for their basic subsistence and livelihoods. Signs of this can be seen in fish traps, middens, archival records and through the vestiges of customary practices that remain. In parts of Northern Kwa-Zulu Natal (Figure 1), communities can trace their origins to the Stone Age and there is evidence of harvesting of both inland lake and marine resources for the past 100 000 years (Harris et al, 2003). Marine resources have been harvested for consumption, for local livelihoods, for medicinal purposes, and as part of cultural and spiritual practices. Similarly on the South East and West coast there is evidence of a long tradition of marine resource use by indigenous coastal communities (MDT, 2010). Figure 1 shows the distribution of fishing communities along the South African coast. Only geographically distinct small-scale fishing communities are depicted, however it must be noted that many small-scale fishers also operate from within the urban areas of the coast.

Marine small-scale fisheries are notably diverse, varying significantly between the eastern and western coastal regions of the country – in line with the variation of coastal communities along these regions. Variations in the fisheries may be in terms of target species, gear type and usage, and importantly, in terms of the role that fishing may play in the social framework of the coastal people. Historically, small-scale fishers from communities living along the west coast of the country have been drawn into the commercial exploitation of marine resources along varying scales. In contrast, many of the communities along the East coast have a more fluid relationship with fisheries, using marine resources as one of a few livelihood options, the intensity of which may vary throughout the year. Small-scale fishing activity along the East coast is, in contrast to the southern and western part of the country, exclusively shore-based. Fishing and use of marine resources in these communities is not just about the catching of these resources. In most small-scale fishing communities, fishing is a community-based activity and their dependence on marine resources for food and basic survival is tightly woven into the social fabric of the community. Notably, there are generally high levels of poverty and unemployment in coastal communities involved in small-scale fishing (MDT, 2010).

During colonial times as well as more recently during Apartheid, many traditional fishing communities in South Africa have been dispossessed of their lands adjacent to the coast and similarly dispossessed of some or all of their traditional fishing rights to harvest resources along the coast. A few communities have managed to keep a strong sense of their traditions and the customary basis to their fishing rights and practices while others have lost much of their access and traditional regulatory systems, due to the imposition of new regimes of fisheries management (MDT, 2010). The MLRA's implementation has had a largely negative effect on small-scale coastal fishing communities who, since 1998, have been subjected to a regulatory 'explosion' that in many cases has constrained (and even criminalised) their fishing activities (Hauck, 2009). Their rights to access the marine living resources on which their livelihoods have depended have been undermined. This has inevitably exacerbated pre-existing pressure on households as they struggle in a context defined by increasing levels of poverty and unemployment.

The neglect by state management authorities of the small-scale fishing sector in South Africa in favour of industrial fisheries is most visible in the lack of reliable, current information on these fishing communities. Consistent with the lack of data pertaining to the small-scale fisheries sector, no precise figures exist on the number of small-scale fishers in the country. In 2000, it was estimated that there were approximately 30 000 fishers with approximately 28 000 households dependent on subsistence fisheries (Subsistence Fishers Task Group, 2000), but this is likely to be an under-estimate (MDT, 2010). Recent deliberations held by national task team members during the small-scale fishing policy drafting process, which has been underway since 2007, estimated closer to 100 000 people directly involved in small-scale fishing activities. Associated social systems and dynamics are often poorly understood or improperly studied. As a result of the small-scale fisheries sector not having been accommodated within the MLRA, there are no formal systems in place for gathering information about this sector. There is insufficient knowledge regarding the dynamics of small-scale fisheries along South Africa's coastline such as catch

rates, the biological status of many target species, and the number of participants and the socio-economics of each community (see SWOT analysis).

Recreational fishers

It is estimated that there are ±750 000 recreational anglers in South Africa. South Africa's recreational fishery is comprised of three distinct groups of anglers:

- i. Shore angling: anglers fish directly from the shore, off beaches, in estuaries or off breakwaters. This is the most accessible form of angling.
- ii. Boat-based recreational fishing takes place either from small boats in estuaries, or from larger vessels (e.g. ski-boats) that launch either from harbours or the beach and target reef fish or game fish many kilometres offshore
- iii. Spear fishing is the smallest sector of the recreational angling fraternity. It is practiced along the entire South African coastline.

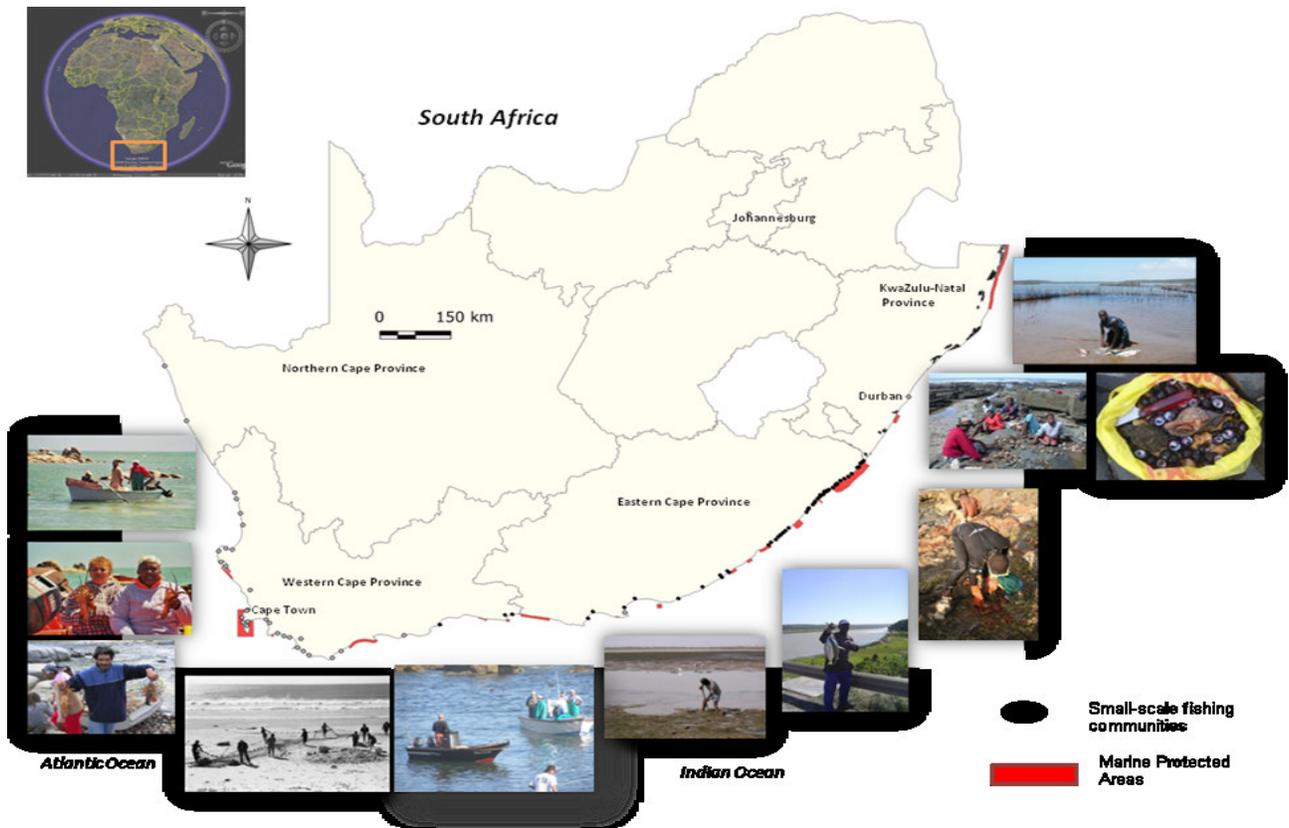


Figure One: Small-scale fishing communities as identified by provincial nature conservation agencies, the fisheries authority, Masifundise Development Trust (MDT), and the Artisanal Fishers' Association of South Africa Marine Protected Areas (MPAs) are also shown. Pictures depict various small-scale fishing activities along the coastline.

4. Policy and governance

4.1 Small-scale fisheries governance

Up until 1994, regulation of marine resource use in South Africa focused mainly on the control of commercial and recreational fishing activities. Access to and regulation of fisheries resources were governed by various Sea Fisheries Acts (Act 10 of 1940, Act 58 of 1973 and Act 12 of 1988) and the benefits accrued largely to the white and economically advantaged sectors of the population. During this period, small-scale fishers had no legal rights of access to marine living resources and were not recognised as a distinct and legitimate group in the legislation governing fisheries management. Regulatory systems were therefore fragmented.

The socio-political context in South Africa following the demise of Apartheid was one of raised expectations with hope of a new South Africa that would redress past injustices and promote substantive equality. The new Constitution introduced a human rights-based dispensation, which subsequently played a significant role in shaping fisheries law reform. The promise of the new government was clear: “the primary objective of fisheries policy is the upliftment of impoverished coastal communities through improved access to marine resources and the sustainable management of those resources through appropriate strategies” (African National Congress, 1994). This placed the fisheries authority in a position where it would not only need to deal with the sustainable management of marine resources, which had been their sole task up to that point, but also to address issues of poverty and underdevelopment by means of extending the potential benefits of marine resources to previously disadvantaged communities.

Since 1998, fisheries management has been integrated into the MLRA. The legal recognition of subsistence fishers by this legislation was an expression of commitment to address the needs of this previously marginalised sector. The MLRA defines *subsistence fishers* as those people who “regularly harvest marine resources as a source of food or to sell them to meet the basic needs of food security”. This resource-oriented definition excluded the recognition of a range of labour-intensive, small-scale operations. The Subsistence Fisheries Task Group (SFTG) appointed by the Department of Environmental Affairs and Tourism recommended that specific attention should also be paid to small-scale commercial fishers who are not subsistence fishers but whose needs differ from those of industrial-scale fisheries. The SFTG recommended that small-scale commercial fishers be distinguished by their history, hands-on fishing approach (the owner of the permit is involved in the day-to-day running of the enterprise) and small- to medium-sized operations.

Translating the MLRA policy objectives and legal provisions, as well as the SFTG recommendations, into a workable rights allocation and management system has proved a difficult task within the new legislative framework. Only a few access rights have been issued in the subsistence sector since the publication of the SFTG Report. Functional permit application and allocation procedures for subsistence and small-scale commercial fishers have not been developed properly. Only in KwaZulu-Natal, where the provincial department exhibits operational capacity, has significant progress been made towards formalising subsistence fisheries and implementing workable co-management arrangements. In the other provinces, a lack of clarity with respect to the term ‘subsistence fisher’, a lack of communication and a lack of implementation vision and capacity have hampered the subsistence fisheries programme.

After intense lobbying by fishers and NGOs, the state has recently recognized the inability of the MLRA to deal adequately with fisheries that do not fall neatly within the categories of subsistence, recreational or commercial fishing. In particular, the system of issuing individual-based rights in the form of subsistence permits is inappropriate for communities of fishers who would benefit from the adoption of a collective-

rights and management approach. In 2007, a process of developing a policy specifically for small-scale fisheries was initiated. This sector would include those fishers from the Eastern Cape and KwaZulu-Natal, who were defined as subsistence by the MLRA but, to date, have only received annual exemption permits and have never been recognised as full rights holders. Specifically in the Western and Northern Cape, small-scale fishers have - since 2007 - received annual 'Interim Relief Permits' to undertake fishing of certain line fish species, rock lobster and white mussel. It is envisaged that exemption and interim relief permits are issued annually until such time the small-scale policy is implemented.

A draft policy was published at the end of 2008, but was rejected by fishers and NGOs who felt that their contribution was not reflected in the document. The process is still underway to develop a new small-scale fishing policy, and a draft has been gazetted for public comment in September 2010. It is envisioned that the policy will address the pre-harvest, harvest and post-harvest activities that shape the use of marine resources within the near-shore marine ecosystem in South Africa. Furthermore, it is envisioned by participants involved in the drafting of the new policy that it takes into account the "histories and conditions of different small-scale fishers in South Africa, the particular species that they harvest, the availability of these species as well as the ecosystem needs of these species" (MDT, 2010). Fishers and their organizational representatives also envisage that the policy will account for specific social dynamics relating to class, race and gender, as well as the geographical configuration of small-scale fishing communities and the manner in which these spatial dynamics affect access to targeted resources, and use-patterns relating to these resources.

The draft policy defines small-scale fisheries as:

"that sector of fishers who employ traditional and/or passive fishing gear and engage in a range of labour intensive harvesting, processing and distribution technologies to harvest marine living resources on a full-time, part-time or seasonal basis in order to ensure food security. This sector of fishers also engages in ancillary activities such as net-making and boat-building, which provide additional fishery-related employment and income opportunities to these communities".

4.2. Management of recreational fisheries

In response to the increasing pressure on fisheries resources, regulations have been introduced to control the number of fish that are harvested by recreational anglers. Some of the important regulations that apply to anglers are:

- i. A legal obligation to purchase a recreational fishing permit - the proceeds of which enable fisheries researchers to manage stocks more effectively.
- ii. The regulation of each angling species by a minimum size limit
- iii. The regulation of each angling species by a bag limit, to ensure that catches are restricted and spread evenly throughout each sector
- iv. The protection of certain angling species by closed fishing seasons
- v. The prohibition of recreational fishing activities in Marine reserves
- vi. A ban on the sale of recreational fishing catches

5. Planning and management

5.1 Subsistence fisheries management

With the small-scale policy currently in draft form, no implementation or management plans have yet been developed for this sector. However, several regional fisheries management plans were developed for subsistence fisheries in KwaZulu-Natal and the Eastern Cape. It remains uncertain whether or not these management plans will remain unchanged with the implementation of the small-scale fisheries policy. No public management plan exists for the Interim Relief fishery in the Western and Northern Cape Provinces. Several local management plans have been developed as part of NGO-implemented co-management projects, however, none have been institutionalised as part of the formal fisheries management arrangements to date.

5.2 Management of inshore fisheries as part of the commercial sector

As indicated above, several inshore fisheries that could be considered to be small-scale are currently managed as per the commercial sector. The management arrangements for the two most important inshore fisheries where small-scale fishers are involved, are described below as an example. These include the 'Traditional Line Fishery' and the 'Inshore West Coast Rock Lobster Fishery'.

The management of the traditional line-fishery is determined by the Marine Living Resources Act (MLRA) of 1998, and the sector specific policy of 2005. Furthermore, there exists a "Line fish Management Protocol" (LMP) that was developed in 1998 in an attempt to streamline national line fish management. It is not clear whether the LMP has been adopted in its entirety by the managing authority although elements of its Operational Management Procedure (OMP) have been applied, and provide detailed information regarding the objectives, assessment methods, biological references, data requirements, stock status and actions to be taken (Griffiths et al. 1999). The TAE was reduced in 2003 to address the crisis in the fishery, and has remained constant, currently at 455 vessels and 3,161 crew. The coast has been divided further into 'management zones' to manage regional distribution of effort. The OMP further recommends that the fishery retains the declared crisis status for another decade concluding in 2015. The line fish regulations published in 2005 stipulate the conditions for invoicing, maintenance of paper trails, and record keeping. The commercial line fishery itself is not entirely unified, although there are regional associations. The West Coast Commercial Line Fish Association is the applicable body for snoek directed fishing. Finally, a "special interest group", the South African Marine Line Fish Management Association (SAMLMA) meet once a year. The latter is a non-executive body but most probably enjoys the widest national representation by participants in the line fishery, including recreational fishers, government and NGO's.

Management of the inshore West Coast Rock Lobster fishery is undertaken by means of a TAC and specific allocations per area or zone. Other management measures include size limits and a closed season. Catches of berried or soft-shelled lobsters are banned entirely, and catches are recorded at landing sites by contracted monitors. An Operational Management Procedure guides the decision-making for the near-shore commercial component as it stipulates in detail the management methodology and procedures. The procedures are pre-agreed formulae to calculate TAC recommendations each year in a manner that incorporates updated information from resource monitoring data. Commercial rights are allocated for a period of 10 years (15 November 2005 to 31 July 2015), however, the fisheries authority is tasked with evaluating right holders against predetermined performance criteria on a regular basis. Interim Relief Permits are re-issued each year, whereby fishers' registers are compiled by local or regional fisher organisations and verified by the fisheries authority. This measure is being instated until such time that the small-scale fisheries policy is implemented.

5.3 Marine Protected Areas (MPAs)

Under the MLRA, which is current policy, the Minister of Environment Affairs and Tourism has the power to declare MPAs or areas dedicated for specific fishing regulations. The Minister can proclaim these areas for the conservation of biodiversity, the management of fisheries (to rebuild stocks, enhance the abundance of stocks and to provide areas for research) or to reduce any conflict that could arise in an area due to competing fishing activities. At present, the country has 20 MPAs, covering 21 per cent of the 3000 km-long coastline, of which 9.1 % comprise no-take zones.

6. Development, trade and projects

Over the last decade, numerous projects have been implemented through academic institutions, consultancy agencies, NGOs and local government authorities, with a general focus to develop co-management arrangements between local small-scale fishers, the national fisheries authority and other local stakeholders. In many cases, alternative livelihood opportunities were also sought in the agricultural or tourism sector aside from developing local sustainable fishing practices in partnership with communities. While funding was obtained regularly through national ‘poverty relief’ programmes funded by the Department of Environmental Affairs and Tourism, the fisheries authority itself only seldom participated actively in the co-management process. As a result of a combination of short time-frames and limited funding, the majority of these projects are no longer active. An exception includes the ‘subsistence fisheries programme’ implemented by the KwaZulu-Natal nature conservation department. This programme has been running for numerous years and has established co-management processes within the majority of coastal small-scale fishing communities. Currently, collaboration is sought with local development agencies to establish livelihood enhancement programmes.

The progressive stance, however, towards small-scale fishing that is taken by the new policy presents a number of opportunities (See SWOT analysis). Most significant among these is the new emphasis that land-based activities also play a key supporting role in the operation of a small-scale fishery. Participation in a fishery goes beyond the actual harvesting of fish, and the state’s recognition of this represents a promising development. The draft policy’s emphasis on post-harvest value-adding opens the space for the valorisation of small-scale fish products: “the Department is aware that for communities to receive the maximum benefit from marine living resources in their area, those communities must be responsible for adding value to the resource and must benefit directly from doing so”. Mechanisms proposed by the state to realise this objective include subsidies for the storage of fish, capacity-building in processing, marketing and distribution, the establishment of community-based marketing companies, and the development of eco-labelling certification. In addition, the institutional shift of the fisheries authority to the Department of Agriculture, Forestry and Fisheries presents an opportunity to expand the fisheries authority’s regulatory function with a developmental mandate. Several mechanisms are proposed in the draft small-scale fisheries policy that will increase support for training and local development within small-scale fishing communities.

7. SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Relatively well understood ecosystems and species • Strong marine science research capacity • Growing consumer awareness for responsible fishing practices • Internationally linked small-scale fishery NGO base • Low capital investment needed to harness the fishery resource in the small-scale sector; simple fishing techniques such as nets, traps and lines • Good local knowledge of the fishing grounds • High productivity and biodiversity • Long coastline • Numerous formal and informal refuges in region for certain shellfish species with little or no fishing 	<ul style="list-style-type: none"> • Low level of education in most fishing communities • Eroded customary laws and practices • Policy vacuum for many years: most co-management pilot projects failed as no support capacity • Lack of trust in fisheries authority • Poorly studies social systems • Social science research capacity not focused on small-scale fishery systems • Many informal fisheries have not yet been recognized by government • Lack of local management plans (fisheries and ICZM and Local Economic Development) • Low participation of civil society in fisheries support work • No small-scale fishers training infrastructure • Lack of alternative employment opportunities in marginalised communities • Poor post-harvest structures • Pricing determined by bulk-buyers and processors • Current top-down management system with lack of legitimacy among local stakeholders • No special protection of the small fisheries from the competition of industrial fishing boats • Weak arrangements to ensure that the information reaches the fishing communities • Low levels of monitoring, enforcement and compliance • Means for fishing surveillance insufficient compared to the length of the country's coastline • Marine protected areas and fishing reserves exist but many lack legitimacy resulting in illegal fishing activities

Opportunities	Threats
<ul style="list-style-type: none"> • Very diverse in terms of species, gear and social context • The draft policy embrace a human rights based approach, meaningful co-management and attention to past-harvest opportunities. • Management could be improved by consolidating, co-management structures, community-catch monitoring and capacity building initiatives • New policy offers possibility for increased legitimacy of input and output regulations • Establishment of new governance model whereby a sense of ownership is instilled among resource use through legitimate rights and co-management • New policy emphasises post-harvest sector and role in local development • Diversify market share by value adding and better post-harvest strategy • Marketing of regional delicacies and traditional recipes to the tourist market • Adding value to small-scale catch by labelling it's unique characteristics • Certification of small-scale fisheries based on traditional character or ecological sustainability • Better linkage of local development needs, and with integrated coastal management • High demand from local and export markets • Small-scale mariculture development opportunities 	<ul style="list-style-type: none"> • Coastal projects are implemented without clear policy guidelines • No cohesion between Integrated Coastal Management Act, Marine Protected Area policy and small-scale policy • Control of large industry over the marketing • Macro-economic approach to small-scale fisheries instead of valorization of traditional communal character as well as ecologically less harmful fishing methods • Political interference with small-scale policy process and allocations • Commercial and small-scale fisheries governance systems overlap in the inshore zone • Oversubscribed inshore resources by commercial, recreational and informal small-scale fisheries sector • High levels of IUU across inshore and offshore sectors • Confusion about “legal” status of many fisheries • Lack of institutional capacity within fisheries authority to implement various sector policies • Increased fuel prices for motorized small coastal fisheries • Lack of coordination between government departments involved in coastal activities • Conflicts among multiple users; namely fishers, conservationist, coastal residents • Pollution from land based activities • Food insecurity for protein insecure communities

Following on from the SWOT analysis, several recommendations are presented that need attention by the fisheries authority in order to achieve the objectives of the draft small-scale fisheries policy. These recommendations could be facilitated by the ASCLME programme activities.

- I. **Inshore stock status:** Resource assessments need to be undertaken in order to determine sustainable harvesting levels, through a participatory process that involves community, government and civil society capacity, with particular attention to including the local knowledge of fishers.

- II. **Integrated inshore coastal and fisheries governance plans:** Inshore fisheries need to be looked at holistically and within an ecosystems-based approach to fisheries overall. Many inshore resources are over-subscribed in terms of Long Term Rights Allocations and recreational fisheries' catch. A broad review of the inshore fisheries sector is necessary and, where appropriate, the principle of preferential access to small-scale fisheries should be applied. Certain inshore fisheries within the current Long Term Rights commercial sector do, however, fall within the small-scale fisheries continuum as defined in this draft policy.
- III. **Supported pilot projects:** Unlike industrial fishing companies, small-scale fishers require significant support in the form of government sponsored projects in order to ensure equitable distribution of resources and develop the skills and experience to benefit from the livelihoods and economic opportunities that marine resources offer. Social and institutional interventions are needed in order to achieve this.
- IV. **Integrated local development plans:** There is an urgent need for a more integrated approach to the governance of natural resources and local economic development. Marine resource harvesting is only one of many livelihood strategies employed in rural communities along the East Coast. Any development initiative needs to address various livelihood enhancement interventions in an integrated manner (including tourism-related opportunities based on the local sale of marine resources).

List of Datasets and Projects

No centralised database exists for detailing the catch, number of fishers, associated fisheries, socio-economic data or relevant projects or programmes pertaining to the small-scale fisheries of South Africa. This is mainly as a result of the policy hiatus that has existed thus far for this sector. The fisheries authority does maintain records of catch-monitoring at various harbours and for various commercial fisheries, but does not retain social data or indicators of impact from various management interventions. Data relevant to the small-scale fisheries sector has been recorded by numerous short-term research projects undertaken in the varying coastal regions or within specific small-scale fishing communities. Further details of these projects are outlined in certain key documents listed in the selected bibliographical resources amended below. An inventory of research projects is currently planned through the South African Network of Coastal and Oceanic Research (SANCOR).

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ANNEX 1: An overview of South African fisheries that fit the new small-scale fisheries definition

Species or species group	Fishery 'name/sector' (if applicable)	Province(s)	Region or habitat (if applicable)	Gear/vessel
Abalone	Commercial abalone	WC	Cape Peninsula to Overstrand	Boat-based hookah diving
Abalone	Experimental small-scale commercial	EC	Port Elizabeth to Xora	Shore based snorkel diving
Bait (sand prawns, mud prawns, worms, mussels, clams, redbait, other inverts)		All		Hand pumps, digging
Cape rock oyster	Wild oyster	WC	Southern Cape, Still Bay to Plett.	Wetsuits, snorkeling, crow-bar, on-foot access
East coast oyster	Recreational/subsistence	EC	Rural	Hand-picked, shore-based, panga, knife, screw-driver
East coast rock lobster	Recreational/subsistence	EC	Transkei	Snorkeling and hand collection, subtidal
East coast rock lobster	Subsistence	EC	Transkei	Shore-based poling, intertidal
East coast sole	Inshore hake/sole trawl	WC/EC	Mosselbay to PE	Small side/beam trawlers (small vessels only)
Gamefish - tunas, billfish, king mackerel	Jet-ski	KZN	South and North Coasts	Large jet-ski's
Harders/mullet	Small nets	NC/WC	West Coast	Estuarine gillnetting/ drift net
Harders/mullet	Small nets	NC/WC	West Coast	Beach seine net
Intertidal algae (<i>Gelidium pristoides</i>)	Commercial algae	EC	Rocky shores St Francis to T'kei	Hand collected

Species or species group	Fishery 'name/sector' (if applicable)	Province(s)	Region or habitat (if applicable)	Gear/vessel
Kelp (<i>Ecklonia maxima</i>)	Commercial algae	WC	West Coast to Overstrand	Harvested and collected
Linefish (hottentot, steentjie, panga, carpenter, small bottom species)	Recreational/subsistence (not necessarily part of TLF sector)	NC/WC	Smaller coastal communities	Non-power or low hp boat, handline, rod and reel
Linefish (multi species)	Traditional line-fish (TLF)	KZN		Ski-boat, handline
Linefish (hottentot, steentjie, panga, carpenter, small bottom species)	TLF	NC/WC	West Coast to Overstrand	Ski-boat, chukkie, handline, rod and reel
Linefish (multi species)	Recreational/subsistence	All	Shore-based, estuaries	Hand line
Linefish (multi species)	Recreational/subsistence	All	Shore-based, estuaries	Cast net
Linefish (multi species)	Traditional traps	KZN	Kosi lake	Kosi lake fish traps, estuaries, lagoons, spear
Linefish (multi species)	Recreational/subsistence	All	Shore-based, estuaries	Rod & reel
Linefish (multi species)	Recreational spearfishing	WC/EC/KZ	Especially KZN	Spearguns, boats, diving gear
Linefish (nomadic pelagic species - snoek, yellowtail, small tunas)	TLF	WC	West Coast to Gordons Bay	Ski-boat, handline
Linefish (reef species)	TLF, "redfish" and seabreams	WC	Southern Cape - Knysna/Plett.	Handline and small ski-boats
Linefish (stumpnoses, kobs, white steenbras, grunters)	Recreational/subsistence	All	All estuaries	Gillnets/set nets

Species or species group	Fishery 'name/sector' (if applicable)	Province(s)	Region or habitat (if applicable)	Gear/vessel
Linefish (white stumpnose, kob)	Small nets	NC/WC	West Coast	Beach seine net
Linefish (yellowtail)	TLF, treknet	WC	Falsbay	Beach seine net
Mangrove crab	Recreational/subsistence	EC/KZN	Rural	Baited lines/hand/traps
Mediterranean ('blue') mussels (<i>Mytilus galloprovincialis</i>)	Recreational/subsistence	WC	West Coast	Hand-picked
Brown mussels (<i>Perna perna</i>)	Subsistence	EC/KZN	Rural	Hand-picked, shore-based, panga, knife, screw-driver
Octopus	Subsistence	EC/ KZN	Rural	Fork, hand-picked, shore-based
Octopus	Experimental	WC	False Bay	Pots longline
Rocky shore invertebrates (except rock lobster)		All	Rural	Hand-picked, shore-based, panga, knife, screw-driver
Sand crabs	Experimental	WC	False Bay	Bait and hand collection
Sandy shore invertebrates		EC	Rural	Hand-picked with tools
Sandy-shore invertebrates		WC	Rural	Hand-picked with tools
Small pelagics (sardine)	Sardine run	KZN	South Coast/Urban	Beach seine net
St Josephs shark set-net, Langebaan		WC		Set net (gillnet)
Swimming prawns		EC/KZN	All estuaries	Shove net

Species or species group	Fishery 'name/sector' (if applicable)	Province(s)	Region or habitat (if applicable)	Gear/vessel
Swimming prawns		EC/KZN	All estuaries	Small seine nets/traps
Tuna (yellowfin and longfin)	Tuna-pole	WC	Southwestern Cape	Medium ski-boats, "Madeira" type poles
West coast rock lobster	Inshore WCRL	NC/WC	West Coast (e.g. Doringbaai, Paternoster, Kommetjie)	Small boat (ski or rowing) with hoop-net
West coast rock lobster	Recreational/subsistence	NC/WC	Cape Peninsula to Overstrand	Snorkeling, paddle ski's and hoopnets, poles from shore
Whelks (<i>Bulia</i> spp.)	Experimental	WC	False Bay	Hand collected from sand beaches
White mussel	Bait	NC/WC	West Coast	Spades/hand

II. Tourism – Prepared by Mr. Timothy Foggin, E-mail: 1foggin@gmail.com

1. Country Overview

Coastal management efforts in South Africa have undergone a dramatic transformation in recent decades: from a bureaucratic and biophysical focus towards an approach rooted in participation, empowerment and the promotion of sustainable coastal livelihoods. Confronting poverty is arguably the most important and challenging issue for the South African Government. South Africa's coast has an important tourism related contribution to make in meeting basic needs and improving the well-being of coastal communities.

South Africa in many sectors is attempting to utilise the Sustainable Livelihoods approach to foster more people-centered, pro-poor, integrated coastal management (ICM). The Sustainable Livelihoods approach complements and enriches ICM and could help to bridge the gap between sustainability rhetoric and the reality facing poor coastal communities.

In 1994, fewer than 600,000 tourists visited South Africa, since democracy South Africa has had a total of more than 48 million visitors. This is phenomenal growth in foreign arrivals. The latest available figures show that South Africa saw a total of almost 5,5 million foreign arrivals in the first seven months of 2008, compared to just over 5,1 million in 2007 (MoT). This represents an increase of 7,8% year on year.

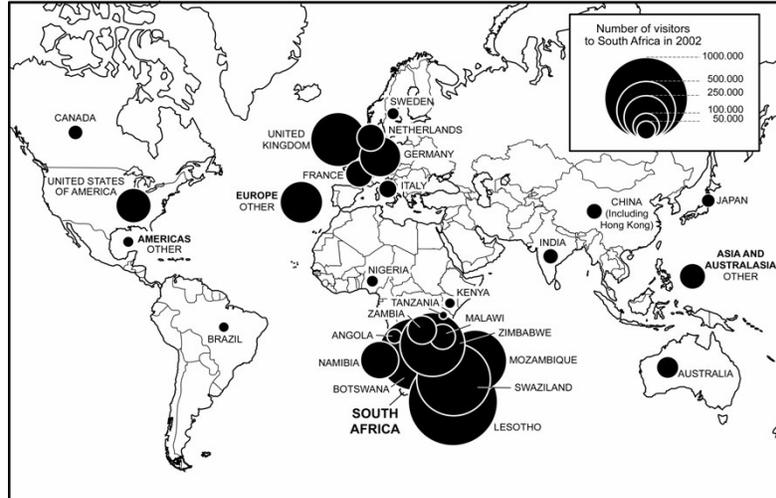
Tourism's contribution to the South African economy has almost doubled from 4,6% in 1993 to 8.3% in 2007, which has an actual Rand value of R60.1 billion. Approximately 7.4 percent of all jobs in South Africa exist either indirectly or directly because of this sector.

The tourism sector is the fourth largest generator of foreign exchange in South Africa and lies third, after manufacturing (24.4%) and mining and quarrying (8.6%), in its contribution to the economy at 8.2%. Although South Africa attracted just 0.9% of the total world tourism arrivals internationally in 1998 (ranking it 25th in the world as a tourism destination), it represents the economic sector of most significant growth in the country. Predictions from the World Travel and Tourism Council indicate that the travel and tourism industry will grow from an estimated 69.8 billion rand industry in 1998 to 270 billion rand by 2010.

Approximately 67% of the South African tourism industry can be attributed to domestic tourism, contributing R16 billion of the R24 billion generated from the combined domestic and foreign tourism spend (SA Tourism 2001c). Ensuring the domestic tourism product is well developed and maintained is paramount to the success of this local economy and associated livelihoods. It is proven knowledge that any tourism destination must ensure this in the interests of long term sustainability.

Internationally, the market-led model of development is now common. It certainly applies in South Africa, where economic policies since late 1994 have aimed to mobilise investment to boost growth, and trim government operating costs. It pervades policy thinking in tourism, which is now seen as private sector-led. Meaning wilderness resources are increasingly being commercialised as tourism assets.

International Tourism Flows into South Africa in 2002 DEA&T (2000a)



It is significant to observe that a substantial share of South Africa's international tourism arrivals is accounted for by 'regional tourists' from sub-Saharan Africa rather than long haul international travellers. Indeed, of the top 10 source markets for international tourists, six of the biggest source markets; Lesotho, Swaziland, Botswana, Zimbabwe, Mozambique and Namibia are neighbouring countries. Many of these tourists are short-stay visitors (1-3 days) and are travelling to South Africa for purposes of shopping, business or visiting friends and relatives.

As the average spend per tourist differs between countries, the countries from which South Africa generates the highest tourism income are different from those relating to numbers of tourists. Nevertheless, according to the most recent South African Tourism data, six of the top ten countries from which South Africa generates most spending are, once again, regional African sources, with Mozambique ranked as number one. In total, during 2003 tourists from Mozambique, Zimbabwe, Zambia, Botswana, Lesotho and Swaziland spent an amount of R26.6-billion in South Africa, which is almost half of total income from foreign tourism.

Although a large proportion of these regional African tourists are land travellers, the importance of air travel is reflected in the fact that between 1994 and 2003, the numbers of flights between South Africa and other African countries expanded by a factor of more than threefold. This growth in intercontinental air connections, the 'Africanisation' of South Africa's international air transport linkages, has been caused strongly by rising demand for travel to South Africa from groups of, especially, business and shopping tourists

Tourism in South Africa in 2008 in comparison to 2007 (latest statistics as of 9/2010)

- Foreign arrivals increased by 5.5% from 2007
- Revenue generated from foreign tourism at this time increased by 23.4%
- New jobs (indirect and direct) created since 2007 increased by 10%
- Average length of stay for foreign guests increased from 7.9 to 8.2 nights
- Leisure continues to be the prime reason for travel to South Africa
- Business travel decreased from 7.2% to 5.8%
- KwaZulu Natal was the major beneficiary of domestic travel in South Africa

- Majority of revenue generated came from the Africa land markets (R43,5 billion) increase of 19.6%
- Europe accounted for R16,7 billion of total revenue, a 15,3% increase since 2007.

What does this show? Job creation initiatives are working; whether sufficiently enough is questionable. Efforts to ensure increased length of stay are marginal. The African market has long been considered secondary to the European market albeit it has always been understood that arrivals were the larger number however it's now proven that the African market is also larger by expenditure as well.

Tourism's Economic Contribution to GDP

As stated above- the tourism sector is the fourth largest generator of foreign exchange in South Africa and lies third, after manufacturing (24.4%) and mining (8.6%), in its contribution to the economy at 8.2%. Although South Africa attracted just 0.9% of the total world tourism arrivals internationally in 1998 (ranking it 25th in the world as a tourism destination), it represents the economic sector of most significant growth in the country (DEA&T 1999).

The increasing importance of the tourism sector is reflected in the increase in tourism export earnings from 5.2% of total exports in 1988 to 13% in 1999 (DEA&T 1999a). There was also a 37% increase in foreign tourist arrivals to South Africa between 1994 and 1999 (SATOUR 2008). During 2000, South Africa received 5.8 million visitors, of which 1.5 million were from overseas. This showed a growth of 2.7% over 1999. The UK is the top source market, which saw a 5% growth in 2000, with almost 350,000 visitors (SATOUR 2008). Around 67% of the South African tourism industry can be attributed to domestic tourism, contributing R16 billion of the R24 billion generated from the combined domestic and foreign tourism spend (SATOUR 2008). Between April 2000 and May 2001, an estimated 34 million domestic trips were taken, during which 10.9 million people spent R4.5 billion (SATOUR 2008).

These statistics are vital to the livelihoods associated with the tourism sector as research has proven that people across all sectors, especially the vulnerable, benefit from the entire tourism value chain throughout all its levels. Ultimately meaning that what happens at the top does have significant livelihood impacts at the bottom.

The tourism private sector in South Africa incorporates a wide diversity of commercial forms, ranging from major international companies managing safari lodges across Africa, to family-run bed and breakfast establishments, to community guides running tours of townships in major cities. It is quite possibly the most advanced tourism economy on the continent, rivaled only by Egypt.

Primary tourism goals of the three coastal provinces (Western Cape, Eastern Cape & KwaZulu Natal) are:

To promote GDP growth and job creation and the transformation of the economy through six key objectives (growing volume, tourism spend, length of stay and provincial distribution while reducing seasonality and promoting transformation) Internally, the tourism sector is the only priority sector showing positive growth in employment and GDP, however transformation levels are poor.

- A major challenge of all 3 provinces, if tourism is to impact significantly on poverty and unemployment, is that tourism must develop in areas beyond the traditional tourism routes and nodes currently used. Provincial-level data reveals that Gauteng and the Western Cape enjoy the bulk of tourism receipts as these are the two areas visited by most foreign tourists. In the domestic market, KwaZulu Natal has the highest visitor numbers but most of them are from the province.

This would mean developing products to encourage international tourists to increase the average number of provinces visited on a trip (or to return to visit new and different places), and to encourage new and existing domestic travelers to explore destinations outside their traditional patterns.

- South Africa faces the challenge of seasonality in domestic and foreign arrivals. Domestic travel patterns follow the patterns around school, religious and traditional holidays. The seasonality of foreign arrivals varies by region (driven by market-specific and traditional holiday patterns) These seasonal patterns present a significant challenge for product owners as business profitability and job sustainability is a function of activity throughout the year. At the same time, the impact on employment is also sub-optimal as jobs increasingly become seasonal and temporary in nature. Thus the seasonal issue is a major influencing factor in the vulnerability of livelihoods associated with tourism in coastal regions.

1.2 Coastal Tourism Overview

South Africa's coastal tourism hosts a diverse array of tourism products. These include conventional beach based holidays around major centres such as Cape Town and Durban. There are also facilities for conferences, safari tourism, exhibitions and sport in addition to casinos within extensive resorts. The dominant forms of nature-based and adventure tourism in the country include safari tourism, whale watching, white water rafting, hiking, bird watching, 4x4 trails, deep-sea fishing, hunting, and diving.

There are also great opportunities for tourists interested in the culture of South Africa with its rich tribal history, plentiful museums, unique archaeological sites and battlefields, and monuments. The most popular activities undertaken by the foreign coastal visitor market is typical sun, sand and sea activities and visiting nature reserves. Adventure activities (for example, scuba diving, mountain climbing, hiking, etc.) are popular with visitors who stay longer than a month, young visitors, and those from Australia and Holland.

a. Beach Tourism

In all coastal provinces this form of tourism is typical of that of any other sun, sand and sea destination. The Western Cape and KwaZulu Natal coastlines focus more on a well developed high end form of tourism while the Eastern Cape provides more for the middle income, value seeking traveler. The livelihood supply chains around this sector are well developed possibly with the exception of the informal market that currently is only able to benefit through sales at the lower levels of the supply chain such as crafts and food.

b. Ecotourism (definition includes cultural and nature based tourism)

Ecotourism in the coastal regions is a predominant sector given that some of these coastal areas are extremely rich in biodiversity coupled with high and low end accommodation providers, meaning tourism flourishes. Livelihood opportunities are more conducive in the adjacent local communities living in these parts and often community members are employed as guides and hotel staff. However these positions are often seasonal.

c. Community Oriented Tourism

This form of tourism, which is specifically based on benefits to local communities, was initially considered as a panacea by government in the 1980's however it has failed to provide sustainable

models of tourism demand and community benefits. This is evident in a number of projects that were based in the Eastern Cape and northern KwaZulu Natal. There are several reasons for this including but not limited to:

- Poor marketing and service delivery understanding by community/entrepreneur operators.
- Often NGO supply driven community tourism projects and not tourism demand driven.
- Often poorly designed business models by interventionists with limited understanding of livelihood approaches resulting in socio economic unsustainability of projects.
- Lack of sound market and financial feasibility assessments thus exposing community or local entrepreneurs to risk.

Coastal tourism in the South African context is extremely advanced in terms of its policy, planning and product. It caters for a wide variety of tourists and includes products for almost every income and taste, however the focus is predominantly on low impact middle to high income tourism.

2. Biophysical Environment

Within the last 10 years various efforts have been made to integrate sustainability in coastal zone development. A set of principles and a methodology for the sustainable management of coastal zones was elaborated and assembled within an integrated coastal zone management approach, ICZM. UNEP, the European Union, and other international organizations fully support the principles of ICZM because the methodological framework is perceived as the most appropriate for the development and the management of coastal zones. However poor implementation and accountability by the responsible state agencies is compromising the full effects of ICZM and its integration with tourism.

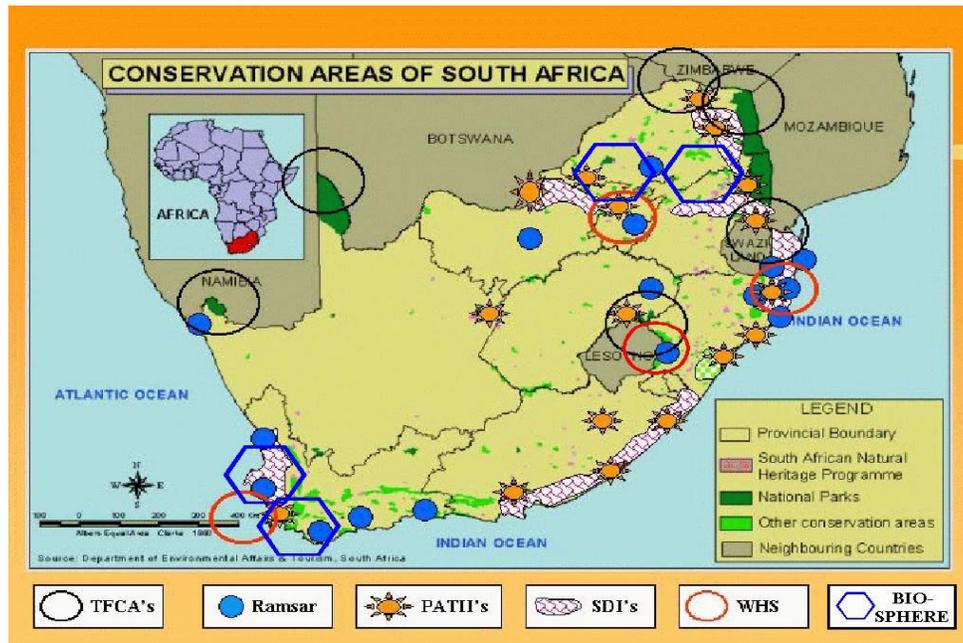
The South African government and state conservation departments (such as Ezemvelo in KwaZulu Natal, who is the largest provider of bed nights in the province) have become increasingly aware that they lack the necessary commercial and tourism focus to generate sustainable revenues from natural and wildlife resources. Public and political pressure has increased on the post-apartheid government to generate employment opportunities, stimulate investment, alleviate poverty and enhance the capacity of historically disadvantaged individuals. Addressing the key socio-economic development needs of the country has made significant demands on the government's limited financial resources. These demands have competed with state subsidisation of natural state assets (for example, National Parks), and led to increasing pressure on the government to channel biodiversity conservation subsidies into programmes that stimulate growth and address poverty.

Currently policy makers, whether private or public, have not embraced the relationship between macroeconomic policy-making and the environmental consequences of these policies. Under South Africa's tax system, which only taxes on income earned, there is no incentive to save natural resources or use them wisely. Wastes can therefore occur, which are not in accordance with sustainability policies, and are not accounted for. An example is the absence of markets for clean air. There is no monetary incentive for tourism accommodation providers to change their way of selling bed nights to an environmentally sustainable way and in so-doing reduce their levels of pollution and waste. An environmental tax which would make the producer pay for polluting the air, or water, would increase the production cost, and therefore provide an incentive for providers to reduce their pollution levels. Parts of the KwaZulu Natal coastline especially the urban sectors, which are dense in hotel clusters are showing signs of environmental degradation as a direct result of hotel waste emissions into the sea.

Hotels are extremely high users of other environmental resources such as water and energy. There are an increasing amount of accommodation providers, particularly in the Western Cape and Northern Natal

coastline, that under their own auspices have decided to ‘go green’ and subsequently set the bench mark in terms of best practice policy, this will make it easier for other providers in due course to follow suit. However often government policies can assist in supporting this change and provide incentives to expedite such energy conservation practices.

Conservation Areas and Development Programmes in South Africa



Key: TFCA = Transfrontier Conservation Area; PATII = Priority Area for Tourism Infrastructure Investment; SDI = Strategic Development Initiative; SDI = Strategic Development Initiative; WHS = World Heritage Site

Source: Matlou, P. (2001)

Conservation Certification Initiatives

South Africa has a large presence of tourism conservation certification schemes; both locally developed programmes as well as international ones. An example of this is the Blue Flag Programme which is an eco-label awarded to beaches and marinas who comply with 29 criteria that fall under the following categories:

- Environmental Education and Information
- Water Quality
- Environmental Management
- Safety and Services

Worldwide 38 countries are involved in the Blue Flag Programme. South Africa is the only country represented in SADC. As of December 2008, 19 South African beaches were part of the Blue Flag Programme. Other such initiatives include the International Green Leaf Environmental Standard, initiated by the Wilderness Foundation of South Africa and launched in South Africa in 2008 (see annex 2).

Fair Trade Tourism South Africa is a non-profit organisation that promotes sustainable tourism development by awareness raising, research and advocacy, capacity building and by facilitating the world's first tourism Fair Trade certification programme. Such initiatives as this and others have made a clear commitment to ensuring a more responsible form of tourism. This responsibility goes beyond the environment and includes various socio economic criteria as well such as, fair wages and working conditions, fair purchasing, fair operations, equitable distribution of benefits and respect for human rights

The proliferation of certification schemes in South Africa has prompted DEAT to provide quality assurance through the development of National Minimum Standards for Responsible Tourism (NMSRT) and a national accreditation scheme for tourism certification programmes. The NMSRT are primarily based on the Global Sustainable Tourism Criteria and National Responsible Tourism Guidelines. The complementary NMSRT and national accreditation scheme aim to harmonise the different sets of criteria currently used for certifying the sustainability of tourism businesses in South Africa, with the ultimate goal that all certificates indicate compliance with the NMSRT.

3. Human Environment

Since the reintegration of South Africa into the international tourism industry coastal livelihood benefits have increased and been enhanced across all sectors. However the sector that has possibly least benefited has been that of the informal sector, especially local communities and rural entrepreneurs.

The full potential of localised artists and craftsmen who have great skills and imagination using different mediums such as traditional pottery, wood and shells etc. has not been fully realised. Although the authorities have already invested substantially into sales outlets and training, a number of weaknesses have been identified as limiting factors hindering the development of this important sub-sector. To overcome these challenges various initiatives were created such as the Tourism Enterprise Programme (TEP) aimed at gaining local business support. The focus was to engage small scale entrepreneurs in a development programme to pass on very specific knowledge such as how to package, market and promote their products.

The White Paper and Tourism Livelihoods:

The White Paper concluded in 1996 that tourism development in South Africa had largely been a missed opportunity; and that the focus on a narrow market has reduced the potential of the industry to spawn entrepreneurship and to create new services, like local entertainment and handicrafts, and to drive local economic development. In fact the formal tourism sector provides major opportunities for the informal sector. The challenge is to enhance this by reducing leakages and developing the multiplier effect. Tourist enterprises attract domestic and international tourists and create opportunities for small entrepreneurs and economic linkages, for example agriculture, hunting, handicraft production, and a wide range of service industries which tourists are likely to consume in the destination.

South Africa's coastal tourism economy is now beginning to work on maximising the local economic benefits which tourism can contribute to an area. There is much to be gained from creating a more diversified tourism product and marketing a wider range of experiences, activities and services to tourists. Established enterprises can gain by encouraging and assisting the development of a complementary product, the larger and more diversified the local tourism base, the more successful enterprises in the area will be.

The White Paper identified a wide range of opportunities for historically disadvantaged groups ranging from small guesthouses, shebeens and restaurants with local cuisine, through community tour guiding,

music, dance and story-telling, arts and crafts, traditional hunting and medicine to laundry, gardening and speciality agriculture. Tourism provides particular opportunities for local economic development in rural areas where it can provide people with an alternative to moving to urban areas. However tourism must be market related. If community-based development processes are not planned, implemented and managed according to market demands then many communities especially the poor, are facing the hard realities of failed or under-performing products.

The African cultural product is rivaling ecotourism within most coastal regions especially in the Eastern Cape however the African cultural experience needs to be better woven into the fabric of the mainstream South African tourism product. More efficient and sustainable integration of this would mean better opportunities for those communities looking to enter into this market.

As previously stated, domestic tourism plays an important part in the South African tourism sector and it is expected to continue to grow as historically disadvantaged people become tourists themselves. Strong economic linkages at the local level were identified in the White Paper as a critical success factor in the local economy.

Communities across several coastal areas have lost land to tourism developments mostly that of large scale public resorts this has of course had a dire consequence for livelihoods as in many cases compensations have been minimal and not accounted for traditional value systems or the emotional losses associated with such removals. Such losses of land have been evident in the Eastern Cape and KwaZulu Natal as a result of mining and tourism. The intentions often 'advertised' by developers is that in turn communities would be able to benefit from employment opportunities however these have been limited and often are seasonal and only rarely allow for community members to progress beyond entry level management positions.

The most significant benefits to the poor clearly arise from direct employment within the tourism industry. As waged staff from rural communities frequently support 7-8 people, who rely on these salaries to pay for food, clothing, and schooling. However it is clear that small coastal tourism enterprises with their own capacity constraints are unable to fully address the infrastructure, education and unemployment problems in local rural coastal areas.

By combining the efforts of smaller enterprises, and by re-directing those of larger establishments, a more coordinated, strategic and sustainable approach to local poverty alleviation and rural development could be established. Drivers of such collaborative efforts could come from motivated personnel within individual tourism enterprises; from calls for strategic action from community members; or from independent intermediary bodies (e.g. NGOs) working to promote a strategic and sustainable approach to rural development. Thus, while policy can sometimes provide a key kick-start to motivating the private sector to think pro-poor, it can also undermine efforts where it is counterproductive.

4. Policy & Governance

The four main policy thrusts of the post apartheid government which have impacted on the dynamics of livelihoods in the coastal areas are economic development, land reform, environmental conservation and local government. Elimination of rural poverty in these coastal regions is arguably one of the most challenging tasks of the post-apartheid era. In 1994, the African National Congress (ANC) released a policy framework document known as the Reconstruction and Development Programme (RDP). The RDP was seen as a programme that addressed the needs of the poorest people of the country. The RDP was a short-lived policy, its ideals conflicting with the Growth, Employment and Redistribution (Gear) macro-economic strategy adopted in 1996. Gear emphasised private sector investment, with the state playing a

‘facilitating’ role. Among the many criticisms of Gear has been its concern to boost investor confidence, at the expense of integrating the main RDP objectives which included economic growth, employment and redistribution. The Department of Trade and Industry (DTI) began promoting Spatial Development Initiatives (SDIs), designed to target areas of the country which have both unrealised economic potential and great need for development.

The Wild Coast SDI in the former Transkei, Eastern Cape Province, was officially launched by government which has widely publicized the interest that investors in ecotourism, forestry and agriculture are apparently showing in the SDI programme. When the SDIs were first introduced it was envisaged that rural people from the disadvantaged areas would become the primary beneficiaries, through employment, partnerships with external investors, income from leasing their land and improvements in local and regional infrastructure. Nature and culture based tourism was considered to be an important business activity that local people could become actively involved in. Thus far reviews of the SDI have been mixed and, to an extent, appear to reflect the political affiliation of those critiquing the programme. The Lubombo SDI for the KwaZulu Natal coastal area has too been met with mixed response but has effectively delivered in providing a crucial road route through this province into Mozambique opening up access to these communities.

South Africa has arguably the most extensive tourism policy framework in the region. Policy focuses on tourism development, promotion, responsible tourism development and the broad based economic empowerment of historically disadvantaged individuals. The South African coastal tourism environment is heavily regulated albeit the implementation of these policies is not always as effectively carried through.

The following policy documents guide South African tourism development:

- White Paper: Development & Promotion of Tourism in South Africa, 1996
- Guidelines for Responsible Tourism Development, 2001
- Tourism Growth Strategy, 2001
- National Broad-Based Black Economic Empowerment Act, 2001; and the
- Tourism Code (previously the Tourism Broad Based Black Economic Empowerment (BBBEE) Charter and Scorecard), 2008.

The White Paper uses the language of “responsible tourism development” to highlight the enormous potential of the tourism sector to create jobs, alleviate poverty, stimulate Black Economic Empowerment (BEE) and promote the development of small, medium and micro enterprises (SMMEs). The Tourism White Paper also draws attention to South Africa’s rich natural and cultural diversity, and the potential of tourism to generate income and livelihoods, and alleviate poverty for rural as well as urban communities.

The Responsible Tourism Guidelines were designed in 2001 to provide national guidance and indicators to enable the tourism sector to demonstrate progress towards the principles of responsible tourism embodied in the 1996 White Paper. The Guidelines were published by the national Department of Environmental Affairs and Tourism (DEAT) with funding by the British Department for International Development (DFID).

The Tourism Growth Strategy (TGS) project started in 2001 with the goal of finding ways to more effectively market South Africa as a tourist destination in the increasingly competitive global tourism market. The TGS sets out an organic vision for tourism, which continually changes to respond to new information and changing market trends.

The Tourism Code was designed to measure and monitor the extent to which black people (and especially black women) are included within the tourism sector. The Tourism Code sets measurable targets for the sector regarding ownership and control of economic assets, human resource development, affirmative action and preferential procurement. The application of the Scorecard is voluntary; however favourable Broad-based Black Economic Empowerment (BBBEE) credentials are required for firms seeking to do business with government and will increasingly become a necessity to do business with other businesses seeking to meet their own sector specific BBBEE targets.

The roles assumed by the state and market have shifted completely since the apartheid era. The intention of government to redress inequalities and benefit the poor is one objective in a powerful amalgam of political and commercial forces. However, the rural poor wishing to access tourism opportunities still face many constraints and limitations. While policy has been developed to serve this need it has in the main failed to be actively implemented across all coastal provinces.

Currently, policy attention is focusing on wildlife, wilderness tourism and forestry assets as opportunities for investment-led economic growth, in contrast to community based management of common property resources for household-level use. This focus also contrasts with policy orientation in other countries in which wildlife and forestry issues tend to get left out of poverty and growth strategies, and are left to conservation departments.

The Effect of South Africa's Land Policy on Coastal Tourism

The combination of a Department of Land Affairs (DLA) constrained by a lack of staff with administrative and technical capacity, has suggested that land reform is not a political priority. Land invasions in Zimbabwe since 2000 have raised awareness of land transformation and have led to calls for South Africa to accelerate the pace of land reform. There has also been an increasing tendency for landless people to take direct action to acquire land. It is estimated that there have been just under 70,000 land claims lodged, of which 12,300 have been settled (17.9%) (DLA 2001). Since many people were forcibly removed from land in order to create or expand protected wildlife areas, some of the land claims are enabling rural poor people access to land that has significant commercial potential through nature-based tourism.

5. Planning and Management

In order to secure both sustainability of the tourism industry and the coastal resources used by other sectors, increased attention is needed for effective planning and better integration of tourism in coastal development.

Areas for consideration

- Promoting the participatory management approach among the operational stakeholders in the coastal tourism sector.
- Enriching the operational capacity of institutions and people dealing with tourism development and/or coastal area management, in the tourism private sector and at the local authorities/governments level.
- Raising awareness about the importance of sustainability and integrated management in the planning and management of tourism activities in coastal areas.
- Planning authorities need to consider how they can intervene to avoid tourism developments where they may cause adverse effects such as local land price inflation, loss of access to resources or undermining sustainable livelihoods

There has been an associated paradigm shift within state planning conservation policies. Their priorities have shifted from controlling and protecting natural resources and biodiversity, to policies that focus on the sustainable utilisation of resources, and transferring commercial and resource benefits to the private sector and previously disadvantaged people. Although the state appreciates that it has a role in providing public access to areas of natural and cultural heritage, and in conserving and maintaining them for future generations, it has to prioritise activities to fulfill its remit most effectively. As part of this shift, South African authorities have refocused their role in order to create an enabling environment within which the private sector can operate effectively, and which can stimulate sustainable economic growth.

In terms of tourism based on natural resources, this means that instead of the state operating commercial tourism ventures itself, it promotes tourism development that is government-led, private sector-driven, community based, and labour-conscious. Community based tourism has not been as effective in the South African situation as had previously been expected bar a few isolated entities. Reasons for this are diverse but effectively are as a result of inappropriate business models and lack of private partnerships, such as concessions. Planning and management processes have ultimately failed rural community livelihoods based on the tourism sector.

Tourism development programmes in South Africa have increasingly focused on encouraging the private sector to operate tourism enterprises responsibly. The private sector is being called upon to address national empowerment and poverty alleviation objectives through sustainable economic growth. One example of where this has been attempted is the preferential allocation of wildlife concessions to operators with strong economic empowerment proposals that focus on uplifting marginalized and historically disadvantaged people (Spenceley 2003). Some consider that state development planning policies and their linkages with trade are an important part of dealing with poverty. However, it is also important to realise that policy has the potential to produce multiple, indirect and unintended impacts. There is also a risk that it may miss its target completely by relying on simplistic or incorrect assumptions. Therefore policy designed with the intention of benefiting the poor may not necessarily have its desired effect due to problems in implementation (for example, dealing with the competing objectives of incongruent policies or the activities of stakeholders on the ground).

The use of planning gain to promote Pro Poor Tourism (PPT): Lessons from South Africa

A concept known as ‘planning gain’ has been used to encourage PPT in South Africa. The government agencies involved stipulate that tender documents (bids) for the concessions at community based tourism ventures must incorporate socio-economic criteria. All the preferred bidders responded positively and innovatively, submitting clear practical proposals on empowerment, outsourcing, employment, SME development and so on.

Reflection on this experience has generated a number of lessons:

- Successful projects require a good deal of capacity-building among communities to obtain support for and ensure a broad understanding of the project.
- Potential investors require sufficient information to allay fears of risk.
- Consultation can never be too thorough.
- Government must be realistic in terms of what it can expect from the private sector.
- The private sector may be put off if the process is too time-consuming or expected commitments too onerous.
- It is better to outline a set of principles for investors to develop and apply rather than to be too prescriptive.
- Tender preparation costs can be high.

‘The basic lesson remains that the first objective must be to capture the attention of the investor and that the documentation and process should not frighten them off. Equally the preparation costs should have a realistic bearing on the nature and underlying value of the asset.’

Source: Ashley, 2001

6. Development, Trade and Projects

Internationally, donor agencies working in South Africa are partially rethinking neo-liberalism. The inequality of distribution of income generated through economic growth is recognised. Donors are also adopting ‘sustainable rural livelihoods’ approaches, which stress rural risk management in order to reduce the vulnerability of the poor. Also, the Department for International Development (DfID) has been addressing mechanisms for ‘pro-poor tourism’ (tourism that generates net benefits for the poor). Pro-poor tourism stresses the importance of unlocking opportunities for the poor, rather than expanding the size of the tourism sector (Ashley et al. 2001). Increasing the area of land and natural resources under the control of the private sector has fundamental implications for the rural poor. The poor are the sector of society whose livelihoods are most dependent on access to wild resources. The pro-poor tourism approach can therefore potentially be applied to tourism enterprises in order to focus the type of business developed. In addressing the policy shift towards more private sector ownership and management of wild resources, it is important to understand what factors tend to maximise net benefits for the rural poor. Which policies, institutional arrangements, historical relationships and perceptions, and external factors facilitate or constrain the effective implementation of pro-poor objectives?

7. SWOT Analysis

<p>Strengths</p> <ul style="list-style-type: none"> • Favourable climate. • Rich levels of coastal biodiversity, albeit these are declining and constantly being degraded. • Long scenic coastline. • No mass tourism as yet. • Well developed coastal tourism infrastructure. • Pro poor tourism has been introduced throughout a number of layers of the economy. • Community oriented success stories are few but those that exist set the benchmark • Advanced tourism institutional capacity • Well established informal tourism economy 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Limited follow through of tourism livelihood policy. • Tourism capacity lacking in service delivery at provincial and municipal government levels uncondusive to tourism development. • Poorly designed communities based tourism models by interventionists • Supply driven community tourism projects as opposed to demand driven. • Lack of value chain distributions through the community tribal structures. • Poor market access of community level tourism products.
<p>Opportunities</p> <ul style="list-style-type: none"> • Extend the season of enterprises by developing new products to create better employment conditions and to provide a stronger base for local economic development. • The historically disadvantaged are a significant emerging domestic tourism market. Identify and encourage commercial responses to this opportunity. • Encourage business relationships between foreign entrepreneurs and local and emerging entrepreneurs, partnerships. • Exercise a preference for business and land tenure arrangements that directly benefit local communities and/or conservation. • Government and established businesses need to redress previous imbalances, and to enable the historically disadvantaged to engage in the tourism sector. • Develop joint ventures in which communities have a significant stake, and with appropriate capacity building, a substantial role in management. Communal land ownership can provide equity in enterprises. • To strengthen value chain links at the lower levels of the tourism economy. 	<p>Threats</p> <ul style="list-style-type: none"> • Culture of poverty associated with sub-culture of crime. • Over dependence on community based tourism as a panacea for local economic development. • An over-dependency on tourism to deliver local economic development to coastal communities • Crime and often perceived crime is still an area of concern given no provision of guaranteed security for any tourist. • Poor competency levels of provincial and municipal tourism officials working in the livelihoods sector. • Not continuing with the emerging pro poor tourism concept of enhancing business linkages with the formal and informal tourism sector.

Summary of Challenges Facing Coastal Tourism in South Africa

Tourism value-chains with the economically marginalised are still under-developed, and pro poor business linkages across the industry are still generally in an infancy stage and shallow. However comparatively speaking South Africa does lead this new way of doing business on the continent at least. Supporting institutions and organisations, whether public or private, are relatively new and face periodic crises of confidence and legitimacy as they struggle to find adequate skills and resources.

The South African tourism industry remains fragmented, and often inter-company, inter provincial and inter-city competitive behaviour is destructive. Enterprises at different parts of the value chain often struggle to find opportunities for co-operation and collaboration, leaving the space open for stronger players higher up the value chain to exert considerable influence over pricing, packaging and the shape of the value proposition, ultimately influencing livelihood benefits.

Tourism transformation remains a controversial challenge in the South African economy. The major shareholders of the South African tourism product are still within a limited elite group, albeit this is normalizing. Various redistribution mechanisms, such as BEE (Black Economic Empowerment) programmes have been institutionalized in order to change this.

Current macroeconomic policy responses do not sufficiently take the impacts on the environment into account, the resource base of which the South African tourism economy rests upon. This omission has serious long-term implications for sustainability as resource consumption is encouraged and not accounted for.

However, a significant force in recent years has been the application of environmental economics which attempts to put monetary values on natural resources and the costs associated with environmental degradation. To their credit South Africa has and still is implementing some of the most progressive policies and initiatives in the global tourism economy.

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9. List of Projects

Tourism until recently has not been considered as a tool for poverty alleviation and consequently tourism related development projects only emerged in sincerity in the last 10 years. Equally Poverty reduction is not usually at the heart of the tourism agenda. The South African coastal environment now has numerous tourism related development projects albeit many development or aid agencies are still a little skeptical about tourism's ability to deliver in this regard. Development projects range from the multi million dollar to the locally based community oriented NGO's. The Eastern Cape Province being amongst the least economically developed province has seen the bulk of projects with a variety of UN and EU projects aimed at supporting and stimulating local tourism development.

Ref.	Grant fund	Project title	Grant recipient	District	Brief description	Grant amount	Implementation status
8	LGSF	Economic Infrastructure Feasibility: Dwesa-Cwebe eco-tourism development	Amathole Economic Development Agency	Amathole	The overall purpose of the interventions at Dwesa-Cwebe is to develop an eco-tourism facility on the Wild Coast. The development forms the first of three anchor projects intended to stimulate tourism along the Wild Coast. A developer is currently engaged in formulating plans to improve the current facilities and accommodation within the nature reserve. However the development cannot go ahead without investment in infrastructure by the responsible provincial and local authorities. The specific purpose of this project is to determine the nature and cost of the infrastructure required for Dwesa-Cwebe.	R610,598.00	Contracted activities completed
33	LGSF	Detailed Design and Planning to support the Urban Regeneration of the Jeffrey's Bay Central Business	Kouga Development Agency	Cacadu	The overall objective of the project is to improve market confidence and stimulate investment in the Central Business District of Jeffreys Bay through innovative and sustainable urban design strategies that will improve economic infrastructure, promote accessibility, intensify economic linkages	R905,750.00	Under implementation

Ref.	Grant fund	Project title	Grant recipient	District	Brief description	Grant amount	Implementation status
		District			and promote tourism development. The specific objective is that detailed urban designs and implementation procedures are in place to enable Kouga Development Agency (KDA) to go out on tender to upgrade the core CBD precinct and stop the progress of urban decay in the Jeffreys Bay CBD. The project partners have identified the urban regeneration and environmental upgrade of the Jeffreys Bay CBD as a key project that will benefit the local economy. The main result of the project is therefore that detailed planning, design and tender documents for the urban upgrade of Da Gama and Diaz Roads between Woltemade and Oosterland Streets are available to the KDA.		
35	LGSF	Mbizana Tourism Development Framework	Mbizana Local Municipality	OR Tambo	The overall objective of the proposed action is to provide a coordinated response to the promotion of tourism within the Mbizana Local Municipality. The specific objectives are the development of a Tourism Development Framework that includes anchor tourism projects and associated implementation plans, and building of the capacity of local communities who will be playing a role in the implementation of those projects. The expected results from the action will be an increase in the investment within the area and better service delivery as a result of the increase of the tax base for the local municipality. The following main activities will be undertaken: (i) analytical studies on tourism potential in the area and production of the Situational Analysis; (ii) identification and consultation	R322,500.00	Under implementation

Ref.	Grant fund	Project title	Grant recipient	District	Brief description	Grant amount	Implementation status
					with key stakeholders who will play a role in the project through workshops, briefing sessions, one-on-one sessions as well as special visit to specialist groups/institutions; (iii) submission of a draft Tourism Development Framework for discussion and refinement to stakeholders that will include an implementation plan for the identified projects; and (iv) capacity building programme for the target and beneficiary groups.		
35	LCF CAP ID&D	Mlengane Eco-Tourism Development Project	Nyandeni Local Municipality	OR Tambo	The overall objectives of this action are to contribute to the national objectives of creating employment, fighting poverty, reducing dependency, decreasing vulnerability, empowering and developing the skills of the rural poor, and to contribute towards the Nelson Mandela Tourism Development Corridor. The specific objectives are: (i) to capitalise on the economic stimulation of the area, (ii) to capitalise on indigenous natural resources, and (iii) to concentrate support for groups with most difficult access to economic and financial channels. The following results will be achieved: (i) stakeholder buy-in and involvement, (ii) project steering committee established, (iii) Mlengane Community Trust registered, (iv) land-use agreements signed, (v) feasibility study report, (vi) Record of Decision from DEDEA, (vii) architectural designs and plans exist, (viii) business plan developed, (ix) a community-public-private partnership model designed, (x) partnership agreements signed with tourism private investors, (xi) database of SMME opportunities, (xii)	R1,066,426.00	Under implementation

Ref.	Grant fund	Project title	Grant recipient	District	Brief description	Grant amount	Implementation status
					training needs analysis report, (xiii) capacity building and training programme designed, (xiv) 1800 community members trained, (xv) financial and non-financial commitments secured from stakeholders, and (xvi) monitoring and evaluation reports exist.		

(Several agencies were contacted with regard to submitting a list of coastal tourism projects)

Annex 1. Case Study of Coastal Community Based Tourism

Case study : St. Lucia Heritage Tourism Programme (HTP)

This case study is an example of PPT that goes well beyond supporting community-based tourism. It describes a donor-funded government programme that operates at many levels – from micro to macro – and attempts not just to develop a niche product, but to shift a country's whole tourism sector to a more sustainable footing. It is not a case of 'a pro-poor tourism initiative', but of a comprehensive national tourism initiative that has a strong pro-poor component.

The St. Lucia HTP arose out of concerns about the sustainability and equity of tourism development in St. Lucia. The programme attempts to develop concurrent and complementary initiatives in the fields of policy reform, capacity building, marketing, product development and public awareness in order to fulfil two key objectives:

- to facilitate a broader distribution of the benefits of existing tourism (cruise ship passengers and stay-over visitors);
- to create a new complementary sub-sector, qualified as Heritage Tourism.

This is a four-year initiative that has reached its third year. The case study notes that foundations have been laid for effective PPT through work at many levels, but the progress so far has been more in awareness raising than action on the ground. The programme claims some success, 'making cracks in the fortress' of the existing industry through, for example, competing for clients on the cruise ship wharf, raising the profile of local operators, developing new products and attracting tourists to inland initiatives. However, it recognises that enterprise development by the poor will often be around communal assets, and for this a supportive policy framework that provides for collaborative management and for devolution of rights of use and exclusion is required. Lack of local capacity has constrained the effectiveness of some interventions, but the case study also notes that capacity building efforts bode well for the long-term sustainability of the programme. However, this will require longer than the funded time frame of the project and additional external assistance in training, institutional development and planning is likely to be needed.

At the policy level, the programme has made a number of specific recommendations – on incentives and on tour guides – but the case study highlights that far more attention is required at this level to foster political support and to develop a supportive policy framework. Marketing activities have also been limited, and the programme needs to build stronger links and develop a comprehensive marketing framework. Progress in attracting an entirely new clientele to 'heritage tourism' is not apparent.

The St. Lucia HTP highlights:

- the importance of a good and thorough knowledge of the industry;
- the challenge of attracting beach and package tourists away to cultural products;
- the slow pace of a multi-level approach to deliver real change on the ground.

Annex 2: Critical Issues & Implications of Pro Poor Tourism

Issues		Implications
Market access	Strength of existing economic elites	Breaking in is not easy. Government intervention, marketing links, intensive communication, profit motives and realistic expectations are needed.
	Location of poor people	Poor people – and hence PPT products – are often in remote areas with poor infrastructure. Investment in infrastructure – particularly roads and communications – may be needed to ensure viability.
Commercial Sustainability	Attractiveness and quality of product	Unattractive products do not sell and will threaten the commercial viability of an enterprise. Involving the private sector in product development should help ensure that initiatives are commercially realistic.
	Marketing	Marketing is critical if PPT is to compete in the crowded tourist product market. Government or private sector support may be needed to develop effective links and marketing strategies.
	Cost benefit	PPT can be expensive, especially when transaction costs are included. Costs may exceed the capacity of a company, community, or even government tourism department, making external (donor?) funding important.
Policy framework	Land tenure	Secure land tenure is important for attracting PPT investment. Land rights need to be clarified before tourism development goes ahead.
	Government attitudes	Government attitudes can be the driving force or the stumbling block for PPT. Commitment is critical but not enough, on its own.
Implementation issues	Skills and capacity gap	Capacity building is likely to be an essential part of any PPT initiative. Some form of external facilitation may be required.
	Communication and collaboration	PPT is most effective when different stakeholders work together. Investment in communication is required.
	Meeting expectations	Mismatched expectations and benefits can kill initiatives. It is important to deliver short-term benefits while long-term schemes are developing.

III. Mariculture – Prepared by Dr. Thomas Ashley Shipton,
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1. Introduction

Characterisation of the sector

Farming Activity	Culture Species	Culture Technology	Production Scale ¹	Annual Production (2008)	Value (US\$ million) ³	Employment ³	Number of Farms	Consumption		
								Export	Domestic	Household
Abalone	<i>Halitis midae</i>	Pump ashore - tank	Commercial	934 tons	33.53	1040 ⁴	18	X		
Seaweed ²	<i>Ulva lactuca</i> and <i>Gracillaria</i>	Tank	Commercial	608 tons	0.08		5 ⁴		X	
Mussels	<i>Mytilus gallo-provincialis</i> , <i>Perna perna</i>	Spanish raft system	Commercial	600 tons	0.75	26	1		X	
Oysters	<i>Crassostrea gigas</i>	Long-line / Rack	Commercial	289 tons	1.06	100	9		X	
Finfish - dusky kob	<i>Aryrosomus japonicus</i> ,	Tank / Pond / Cage	Pilot commercial	10 tons	0.06 ⁵	68 ⁵	7		X	
Finfish - silver kob	<i>Aryrosomus inodorus</i>	Tank / Cage	Pilot commercial	0			1		X	
Finfish - yellowtail	<i>Seriola lalandii</i>	Tank / Cage	Pilot commercial	0			1		X	
Finfish - clownfish	Various species	Tank	Research	0			1		X	
Finfish - White Margined Sole	<i>Dagichthyes marginatus</i>	Tank	Research	0			1		X	
West Coast Rock Lobster	<i>Jasus lalandii</i>	Tank	Research	0			0	X	X	

East Coast Rock Lobster	Panulirus homarus homarus	Tank	Research	0			0	X	X	
Scallop	Pecten sulcicostatus	Tank	Research	0			0		X	
Blood worm	Arenicola loveni	Tank	Research	0			0		X	

¹ commercial, single farmer small scale commercial, farmer groups, subsistence, pilot commercial, research

² Produced in the wastewaters of the abalone farms and used as a feed supplement to the abalone.

³ (Britz, Lee and Botes 2009)

⁴ All abalone and seaweed farms are integrated. Thus of the 18 farms in operation, five have seaweed production facilities.

⁵ Figures include employment and production figures for small amounts of silver kob and yellowtail. The majority of production (over 95%) currently accrues to dusky kob.

2. Biophysical

Farming Activity	Geographical Extent	Environmental issues
Abalone	Eastern Cape / Western Cape	No major environmental issues. Abalone are herbivorous macro algal feeders. Production systems employ intensive pump ashore technology that has been developed over the past 20 years – during this period no appreciable environmental impacts have been recorded.
Seaweed	Eastern Cape / Western cape	Seaweed farming in abalone farm effluent waters is becoming increasingly integrated into abalone farming operations as it provides an alternative feed source for the abalone and reduces production costs and the quantities of macro-algae that farms need to harvest from the sea to feed the abalone. Furthermore, it reduces nitrogenous and phosphorus levels in effluent waters.
Mussels	Saldanha Bay	Filter feeders - there are no major environmental issues associated with production.
Oysters	Eastern to Northern Cape	Filter feeders – there are no major environmental issues associated with production.
Finfish - dusky kob	Eastern and Western Capes / KZN	Finfish farming is being developed as either land-based recirculation systems or sea cage facilities. Environmental Impact Assessments have been undertaken for these technologies and no appreciable environmental impacts are anticipated. As a component of the regulatory requirements, Environmental Management Plans (EMPs) based on best management practices will be in place on all farms.
Finfish - silver kob	Eastern Cape / Western Cape	
Finfish - yellowtail	Eastern Cape / Western Cape	

3. Human Environment

Rural, small-scale aquaculture as practised in many African countries is virtually unknown in South Africa. Despite several concerted attempts to establish this form of aquaculture in some rural areas, efforts to establish small scale farmer production models have generally failed. The reasons for this failure include poor environmental conditions, inadequate participatory approaches, poor fish growth, very low returns, lack of interest and neglect (Rouhani and Britz, 2004).

The high energy nature of South Africa's coastline is particularly problematic for the development of small scale production systems - it is technically difficult and costly to develop sea based systems under such conditions, and the prospects for developing economically viable small scale production models remain poor. To date, developments have primarily been driven by medium to large scale commercial

investors developing pump ashore systems that are designed for abalone production, and more recently finfish production. Thus, in terms of providing coastal livelihoods, rather than providing livelihood opportunities to small scale farmers per se, the sector has created employment opportunities on commercial farms. While many farms are located close to urban areas, a significant number are located in rural areas, and provide significant employment opportunities in rural communities. For example one medium sized abalone farm in the rural Eastern Cape provides approximately 200 employment opportunities in a community within which the levels of rural poverty are high, and there are very few alternative employment opportunities. In future, it is likely that the expansion of these types of developments will provide the primary livelihoods opportunities arising from the sector. In this regard, the Government’s policy to promote mariculture development nodes – such as Qolora and the Namaqualand aquaculture park - will promote the creation of employment opportunities in rural areas.

4. Policy and Governance

4.1 Policy and Legislation

Legislation	Present	Comment
Fisheries Act	Yes	The Marine Living Resources Act (Act 13 of 1998)
Aquaculture Act	No	
Aquaculture Policy	Yes	Policy for the “Development of a Sustainable Mariculture Sector in South Africa” (Government Gazette No 3062, 7 September 2007)
Sub-sector development plans	No	Marine and Coastal Management have developed abalone ranching and finfish farming guidelines to assist in the promotion of these sectors. They have also instituted a shellfish monitoring and control programme to monitor shellfish production in terms of consumer safety.
Aquaculture Master plan	Yes	Mariculture Development Plan (2005). The plan primarily focuses on institutional arrangements, capacity building, research and technology requirements, mariculture development nodes, policy and legislative requirements.
Aquaculture zoning	Yes	In partnership with the private sector, Marine and Coastal Management is in the process of zoning land based “mariculture development zones” and sea based “development zones” for finfish cage culture.
Environmental Management Acts	Yes	National Environmental Management Act, Act No 107 of 1998 (NEMA) provides the legislative framework for the Environmental Impact Assessment of mariculture activities. The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004; NEMBA) regulates the importation of alien species for farming purposes. The Integrated Coastal Zone Management Act (ICZM, Act No. 24 of 2008) provides for a system of integrated coastal / estuarine management. In terms

		of mariculture development the regulations have yet to be promulgated, however, the new Act will allow for zoning of seascape for cage culture and ranching, and allow for leasing / concessions over seascape. The new Act provides the legislative framework that allows mariculture to be developed in the seascape; until it was promulgated, the legislative framework made it very difficult to get permits to farm in the sea, and thus, mariculture was limited to shore based and estuarine systems.
EIA Requirements	Yes	EIA procedures are currently required by developments that plan to produce more than 10 tons of product per annum.

4.2 Governance

The Department of Agriculture, Forestry and Fisheries (DAFF) is the responsible agency for the management and regulation of the mariculture sector, policy development and the issuing of permits. The Department of Water and Environmental Affairs (DWEA) is the custodian of water resources and defines certain water use activities that may apply to the use of freshwater resources in the coastal zone. Water use for aquaculture requires specific authorisations. The Department of Trade and Industry (DTI) is tasked with leading sector development. This includes providing the industry with the necessary strategic leadership and industrial support for the sector. The South African Bureau of Standards (SABS) is an institution of the DTI responsible for providing standardisation services that improve the competitiveness of South African industry, products and services. A permit is required from the SABS for the export of shellfish (e.g abalone, oysters) to ensure they are fit for their intended purpose. The Department of Science and Technology (DST) is responsible for supporting the development of technology to promote economic and social development. Agro-processing is one of the key sectors identified by government as showing potential for growth, employment creation and value addition. DST mariculture activities are pilot demonstrations of grow-out technologies undertaken in partnership with the other government departments and the private sector. In addition to the national departments, there are provincial government departments that support mariculture development at the provincial level. In terms of governance, in the past five years government agencies have identified mariculture as a key sector with which to promote economic development in the coastal zone. In this regard, government has allocated significant resources to sector development across the major government departments that are mandated to promote development.

5. Planning and Management

Over the past five to ten years, Government agencies have expended considerable efforts to develop aquaculture policy, sector development plans and initiatives to create an enabling environment for sectoral development. Without exception, all national Government Departments that have a mandate in terms of aquaculture development have initiated some form of intervention to support sectoral development. Government has invested considerable resources to improving its management capacity (permitting, monitoring, environmental management and enforcement), and has in many respects succeeded in developing an enabling environment for private sector investment into the sector. In addition to the traditional governmental roles of regulation and management, Government Departments are increasingly taking a role in development planning. Assistance is in the form of providing support for technology development, the provision of basic infrastructure (e.g funding national hatcheries, development nodes), and the provision of support services (e.g shellfish monitoring programmes, subsidising veterinarian services). As mariculture is characterised as a capital intensive commercial activity in South Africa, the majority of these interventions focus on developing an enabling environment

to attract private sector investment, and while there is certainly a case for developing community based mariculture programmes, to date, programmes in this regard have been limited.

6. Development, Trade and Projects

To date, there have been limited coastal livelihood projects / programmes aimed at promoting small scale mariculture developments in South Africa. Those that have been developed have not proved sustainable. To date, sector development has been driven by the private sector, and while government has recently indicated that they intend to support the development of marine hatcheries to provide fingerlings to small scale farmers, it remains unclear what developmental models will be applied to the small scale farmers. Currently the NGO / Donor sector has played a minor role in mariculture development in South Africa, and as future development in the sector is likely to be characterised by medium / large scale commercial operations, it is likely that their future involvement in the sector will be limited.

7. SWOT Analysis

<p>Strengths</p> <ul style="list-style-type: none"> • Climate on the coast is suitable for a number of culture species for which the technology has been or is currently being established (e.g. abalone / finfish) • Strong technical and research support is available at the country's Universities and research institutions • Training in aquaculture at a tertiary level. • Mariculture development nodes are being developed to promote private sector investment. Some are located in IDZs. • Strong governmental support for mariculture development. A credible, industry focused pro-active policy dispensation has been developed • Good infrastructure to support development (e.g roads, power, telecommunications etc) 	<p>Weaknesses</p> <ul style="list-style-type: none"> • High barrier entry to most operations as aquaculture is generally capital-intensive • High energy nature of the coastline makes sea-based culture systems capital intensive and technically difficult to develop • The potential for small scale mariculture production models to be developed as a tool to improve coastal livelihoods is likely to be limited • Limited dedicated aquaculture veterinarian / health laboratory services • A lack of high quality aquafeed manufacturing capability • The demand for coastal sites is high and there is competition with other resource users. The cost of coastal land is high, and access to cost effective coastal sites is therefore limited
<p>Opportunities</p> <ul style="list-style-type: none"> • There are opportunities to invest in commercial scale farms in rural areas, and in doing so significantly impact coastal livelihoods • Opportunities to develop mariculture development nodes • There is potential to develop community based farming systems for some high value finfish species • New marine fin-fish species such as kob and yellowtail can be cultivated in land based systems. There is potential for yellowtail production in sea-cages • There is a good potential for the abalone farming sub-sector to be expanded in terms of both land based facilities and ranching • Culture technologies are being developed for new species (finfish, mollusc, crustaceans). This will broaden the range of culture / development opportunities 	<p>Threats</p> <ul style="list-style-type: none"> • The permitting and approvals process is onerous and compliance with the system is an expensive and time consuming process - this is now viewed as a barrier to the small to medium sized investors entering the sector • High cost of compliance with environmental and health regulations • There is a lack of veterinarian support services • Biodiversity legislation is restrictive and confusing and potentially damaging to the development of the ornamental fish culture sector

8. Recommendations to Promote Sector Development

The growth of aquaculture in South Africa is constrained by a number of well-documented issues. These can be summarised as follows:

1. Compliance with environmental legislation - Currently, the industry perceives that compliance with environmental legislation is the single most significant constraint to mariculture development. Large and medium sized companies with outstanding human resources and good corporate governance find it difficult, and very costly, to comply with environmental legislation, and for many small and medium size enterprises, it is simply too onerous. The environmental management agencies are aware of the problem, but since they lack an industrial development orientation, they do little more than listen sympathetically, and insist on compliance. Clearly, if the sector is to grow to any scale, these major issues need to be resolved. There are no simple solutions to these problems as environmental legislation affects all stages of the development of an aquaculture operation. Nevertheless, a range of pro-active government policy and strategic interventions is possible, and could open the way for the development of the sector. These include the development of policy guidelines for the use of exotic species, traceability and certification, less onerous Environmental Impact Assessment (EIA) procedures, improved self-regulation and the development of Best Management Practices (BMPs), fish health management programmes, improved permitting procedures, and water quality and product monitoring.

2. Improved Research and Development Programmes - While research and development needs are well-represented in current policy documents, even going as far as outlining potential R&D programmes, a systematic and dedicated approach to aquaculture technology development based on goals for sector development is lacking. Currently, research is undertaken on an ad hoc basis and based on company or researcher goals, rather than the sector's needs. A national aquaculture research and development programme needs to be established for establishing technology in key areas. Furthermore, roles and responsibilities of National Departments, namely Department of Trade and Industry, Department of Science Technology, and DAFF in promoting aquaculture research need to be clarified and coordinated.

3. Improved coordination of government support - While South Africa possesses a wide range of industrial support measures and policy frameworks, access to these by the aquaculture sector is a major constraint. As a result of the uncoordinated and partial support currently provided, significant constraints to growth remain, and sector development has been "patchy". Currently, positive initiatives that are in place include the Aquaculture Sector Working Groups, which bring government departments (DAFF, DST, DTI) and industry stakeholders (AASA, AISA, farmer groups) together; and the inter-departmental working group of national government departments. However, in many spheres, a lack of awareness of aquaculture, and a lack of personnel experienced in aquaculture development, constrains the deployment of full institutional power in support of aquaculture sector development.

4. Improved aquaculture training - The need for aquaculture training is highlighted in the various aquaculture policy documents, as it is one of the greatest constraints facing the development of the industry in South Africa. In this regard, every effort is being made by those tertiary institutions that offer training opportunities in aquaculture, and many young people are receiving on-farm training (particularly on the abalone farms). However, there is a need for a greater degree of international collaboration particularly as regards the training of aquaculture technicians through internship programmes. Specifically, such internship programmes should focus on marine fish larval rearing, fish health management, water recirculation systems and life support systems, production management and broodstock management. Furthermore, aquaculture bursaries need to be made available for black students to study aquaculture at Higher Education Institutions and technical courses in aquaculture need to be established at Technical Universities and colleges. The agricultural Sector Education Training Authority

(AgriSETA)⁵ needs to establish unit standards for aquaculture, in-service training, and accredited service providers, and provision should be made for the in-service aquaculture training of public sector employees.

5. Improved access to finance - If the South African aquaculture sector is to realise its production potential, a national strategy and package of financial support measures will be required. These should be based on the principles outlined in South Africa's National Industrial Policy Framework. The Department of Trade and Industry (DTI) is responsible for industrial development, and is currently leading a process to develop such a national strategy.

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1. Introduction

About 47.2 million people live in South Africa, of which an estimated 11.6 million people live within 60km of the coast, equivalent to about 25 per cent of South Africa's population. The coastal population density of 81 people per km² is high compared to the average African density of 55 people per km² (Wio-Lab 2008; Department of Environmental Affairs and Tourism no date).

The coast is a distinctive, complex and interconnected natural system, with resources that are finite and vulnerable to overuse and degradation; this poses risks when not well managed. Maintaining the diversity, health and productivity of the coast is central to realizing and sustaining the economic benefits it already provides and the development opportunities that currently under-utilised parts of South Africa's coast also promise. Possible opportunities include community participatory nature-based tourism, mariculture, agriculture and small-scale industrial development based on adding value to resources from activities such as fishing, agriculture and mariculture. South Africa's coastal areas are shown in Map 1 in Annex 1.

The value of coastal ecosystems to development has not always been sufficiently acknowledged in South African decision-making, yet the estimated value of the direct benefits obtained from coastal goods and services is about R168 billion annually, which is equivalent to about 35 per cent of GDP. Indirect benefits, for example ecosystem services like erosion control and waste treatment, are worth a further R134 billion annually, while the coast also provides a range of aesthetic, cultural, educational, scientific and spiritual benefits (Republic of South Africa 2000).

The South African coast provides significant opportunities for agriculture, with generally poor but variable soils on the west coast and rich soils on the east coast. South Africa is self-sufficient in most primary foods, and the largest area of farmland is planted with maize, followed by wheat, sugar-cane and sunflowers. Deciduous fruit export earnings account for 15 per cent of South Africa's total earnings from agricultural exports, notably apples, grapes and pears.

Livestock production also occurs in most parts of South Africa and the dairy industry is an important employer with 4,300 milk producers employing about 60,000 farm workers and indirectly providing jobs to an additional 40,000 people. Milk production for 2001-2002 was estimated at 1.97 million liters and South Africa's poultry meat production is estimated at 980,000 tonnes. The gross value of broilers and other fowls slaughtered in 2001 was US\$1.24 million, which makes it the most important contributor to the value of agricultural production in South Africa (Wio-Lab 2008).

Forests are also a key input into the South African economy, and as Map 2 (Annex 2) demonstrates, the majority of South Africa's forest is located along the coast. Forest resources provide significant environmental goods and services, and although the 2 million ha of forest cover only 1.7 per cent of the country, the majority being coastal land, the forest sector contributes R14.6 billion to the economy, representing 4.1 percent of total export earnings.

Since the 1980s economic growth within South Africa has been fastest in the four major coastal cities – Cape Town, Port Elizabeth, East London and Durban, as well as coastal centres such as Richards Bay, Mossel Bay and Saldanha Bay. Eight of the ten current Spatial Development Initiatives (SDIs) of the Department of Trade and Industry are linked to the coast, with a total anticipated value of R90 billion and a projected employment of 90,000 people. The three demonstration job-creation projects arising out of the Jobs Summit – Greater St. Lucia, Wild Coast-Emonti and Algoa Bay – are also all coastal. According to

the Department of Environmental Affairs and Tourism (2008), the coast should therefore be recognised as a key engine for future economic development in South Africa. Direct economic benefits that come from the coast include:

- the South African fishing industry, estimated to be worth about R2.4 billion every year, plus the value of secondary industries such as fish processing, boat building (requiring forestry products) and transportation of fish products
- coastal tourism, estimated to generate R13.5 billion for the South African economy per year, and
- the coastal shipping industry, generating R4.2 billion per year.

Indirect benefits from the coast include:

- natural erosion control, through coastal features such as dunes and high cliffs which protect the coastal environment, estimated to be worth R715 million
- natural waste assimilation, detoxification and recycling, by coastal wetlands, forests and grasslands, estimated to be worth R4 billion

2. Biophysical

South Africa's coast extends for about 3,000km from the Orange River on the western border with Namibia to Mozambique in the east (see Map 1, Annex 1). The eastern shores are washed by the warm waters of the Agulhas Current, while the west coast is washed by the cold, nutrient rich waters of the Benguela Current that are drawn up from the deeper regions of the sea. These currents ensure a rich marine and coastal biodiversity; for example, the Havaan dry coastal dune forest, located just 17km north of Durban's city centre, is a pristine climax forest of over 150 different tree species compared with the whole of Europe where there are just 75 different tree species.

The warm waters of the east coast support a high number of marine species, while the west coast has fewer species but supports large populations of certain species such as deep-sea hake and sardines. In excess of 11,000 marine species have been recorded around South Africa and this represents 5 percent of the total number of marine species that have been recorded around the world. Of these 11,000 species about 17 per cent occur nowhere else on earth (Department of Environmental Affairs and Tourism no date).

Much of eastern South Africa is covered by the Maputaland-Pondoland Mosaic, which stretches along the east coast of southern Africa, extending from southern Mozambique (Limpopo River) and Mpumalanga Province (South Africa) in the north, through eastern Swaziland to the Eastern Cape Province in the south. The Maputaland and Pondoland centres comprise a total area of approximately 19,500km where the vegetation is mainly forests, thickets, woodland, grassland and aquatic communities rich in terms of species diversity (6,000 to 7,000 species), though with relatively low endemism – for example, only 15 percent of the species that occur in the Albany centre are endemic. The main coastal plant associations of South Africa's east coast are coastal scarp forest, Pondoland coastal forest, coastal lowland forest and dune forest (Wio-Lab, 2008). The area of coastal forests in South Africa far outweighs other important coastal ecosystems, creating the majority of the value that these coastal ecosystems provide, as Table 1 below shows:

Table 1: Valuation of Ecosystem Goods and services in South Africa (Wio-Lab, 2008)

Coral Reefs		Mangroves		Coastal Forests		Sea grass beds		Total
Area (km ²)	Value (Million US\$)	Area (km ²)	Value (Million US\$)	Area (km ²)	Value (Million US\$)	Area (km ²)	Value (Million US\$)	Value (Million US\$)
<50	...	30	30	19,500	3,916	7	13	3,959

The 7km² of sea grass beds, found only along the east coast of South Africa, have their largest concentration in the St. Lucia estuary with 1.81km². *Zostera capensis* is the most widespread and one of the dominant sea grass species in the country, occurring mostly in estuaries from Kwazulu-Natal to the Western Cape region. Other important locations with sea grass species are around the rocky protuberances of KwaZulu-Natal, mostly dominated by *Thalassodendron ciliatum* (Wio-Lab 2008).

3. Human Environment

Much of the natural resource base along South Africa's coast has been 'locked up'. This has resulted in the use and access by communities along the coast being greatly restricted and has taken place because of private enterprises such as the diamond mines on the South African west coast, private houses, estates and manufacturing industries as well as through the establishment of conservation and protected areas such as marine reserves. This has resulted in a number of challenges to the livelihoods of coastal communities, including greater pressure on the remaining available resources and the establishment of illegal activities in some of these protected areas which undermines the very systems set up to protect them (Ireland 2004).

In the past, coastal benefits were enjoyed only by a privileged few in South Africa. Proactive facilitation of sustainable coastal development projects along the coast is essential to begin to address the great inequalities of the past. Only 10 per cent of growth in coastal Gross Geographic Product (GGP) in 1993-1994 was generated in areas of the coast outside the main urban centers, although these areas together constitute about 90 per cent of the total coastal area. Rural parts of the coast, particularly those in the former Transkei, Ciskei and KwaZulu areas, are characterised by underdevelopment and a lack of economic opportunities despite enormous potential for particular coastal activities. Other characteristics include poor living conditions and environmental degradation, the absence of adequate roads, other infrastructure and basic services, and a lack of institutional capacity. In major coastal cities such as Cape Town, Durban and Port Elizabeth there is also massive urban poverty (Republic of South Africa 2000).

Seventy per cent of people living in coastal rural areas are also poor, with three out of four children living in households with incomes below the minimum subsistence level. This creates huge pressure on the natural resources, leading to degradation and depletion. The rural poor are not benefitting sufficiently from coastal resources and their poverty is threatening the sustainability of the resource base, while more sustainable and unexploited potential exists in many cases for coastal resources such as forests to contribute to livelihoods and local economic development (Department of Water Affairs and Forestry 2004).

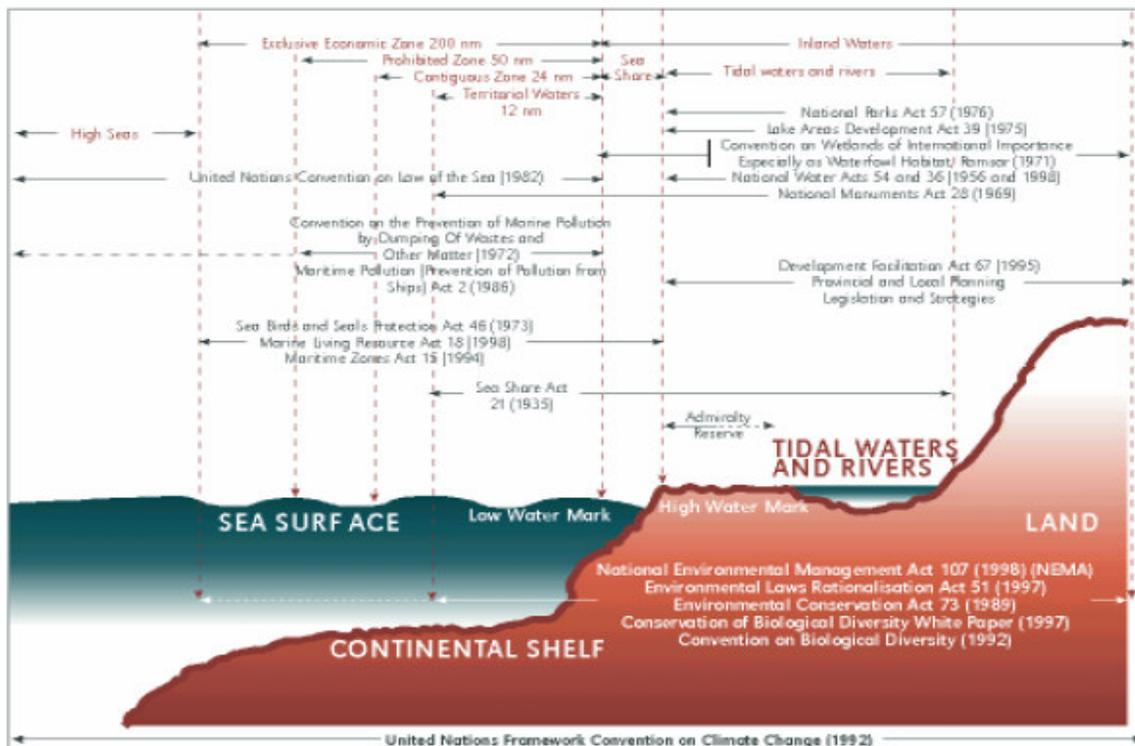
Nonetheless, coastal forestry resources in particular contribute significantly to rural livelihoods and income generation through fuelwood, construction material, timber for boatbuilding, medicinal plants and a range of other non-timber forest products (Department of Agriculture, Forestry and Fisheries 2009).

4. Policy and Governance

Nationally, South Africa's natural environment is governed by a wide range of legislative acts, including the Constitution of the Republic of South Africa (1996), National Environmental Management Act (No.107 of 1998), the Environmental Conservation Act (No.73 of 1989) and, of greatest relevance to marine and coastal resources, the Marine Living Resources Act (No.18 of 1998). The Marine Living Resource Act (MLRA) for the first time recognizes the subsistence fishing sector and incorporates the fact that many coastal communities of South Africa derive their livelihoods directly from marine resources. This act has greatly widened the parameters of management requirements since 1999, contributing to overall improved marine legislation (Republic of South Africa 2000). The Integrated Coastal Management Act (NEMA – National Environmental Management Act – Integrated Coastal Management – No.24 of 2008) (ICMA), signed into law in 2009, further strengthens the legislative backing for effective management of the coast. Implementation of all the above however, remains a challenge at the local level.

A more thorough picture of coastal boundaries and their relevant laws and conventions can be seen in Figure 1 below.

Figure 1: Coastal boundaries in South Africa and Relevant Laws and Conventions (prior to 2000)



Source: Republic of South Africa 2000

With regard to forestry, South Africa has a participatory forest management policy and strategic framework, guided by the Department of Water Affairs and Forestry's vision for forestry of November 2003 which is that "Forests are managed for people and we need to create an enabling environment for economic and social development through sustainable forestry, especially at the local level" (Department of Water Affairs and Forestry 2004). This policy has been directed by various documents which are outlined in Table 2 below.

Table 2: The Documents Guiding the PFM Policy and Strategic Framework

Document	Any Relevant Comments
The White Paper on Sustainable Forest Development in South Africa (1996)	The White Paper provides that forestry will be redirected towards the achievement of the immediate post-apartheid Reconstruction and Development Programme goals. The living conditions of all South Africans should be improved; excluded groups, particularly women, will be included; and small business for economic empowerment will be promoted.
The National Forestry Action Programme (September 1997, Section 3)	The overall policy goal is sustainable forest development to satisfy national and local goals which include the conservation of forest resources, a healthy environment, social equity and economic efficiency. Participation of all relevant stakeholders must be ensured with the focus on the needs and aspiration of previously disadvantaged people and poverty reduction.
The Framework for the PFM Programme (July 2001)	Including principles for indigenous forest management.
The Policy and Guidelines on Access to State Forests (2002)	
Policy regarding access to State forests for outdoor recreation, education, culture and spiritual purposes (2002)	
Principles, criteria, indicators and standards for sustainable forest management of natural forests and plantations in South Africa (2002)	The Department for Water Affairs and Forestry approved 24 criteria and 80 indicators for sustainable management of natural forests and plantations, of which 10 criteria and 22 related indicators have particular relevance to participatory forest management.
Policy and Strategic Framework for the transfer of natural state forests to other managing agents (November 2003).	
Other national laws and policies, not managed by DWAF, also apply	These include the National Environmental Management Act (Act 107 of 1998), the Restitution of Land Rights Act (Act 22 of 1994), and two new Bills still to be proclaimed by the President – the National Environmental Management: Biodiversity Bill (includes provisions re benefit sharing) and Protected Areas Bill.

Source: Department of Water Affairs and Forestry 2004

More generally, the White Paper for Sustainable Coastal Development in South Africa sets out a new policy that aims to achieve sustainable coastal development through integrated coastal zone management (ICZM). This policy also positions South Africa among a growing number of countries that are conducting dedicated coastal management programmes, and contributes to fulfillment of global responsibilities in terms of the 1992 Rio Earth Summit's Agenda 21 (Republic of South Africa 2000).

In the past, coastal management in South Africa was resource-centered rather than people centered, and focused on attempting to control the use of coastal resources. The Sustainable Coastal Development

White Paper sets out a people-centered approach and stresses the powerful contribution which can be made to reconstruction and development in South Africa through facilitating sustainable coastal development and maintaining diverse, healthy and productive coastal ecosystems. Table 3 sets out some of the key coastal management principles that underpin the policy.

Table 3: Principles for Coastal Management – Underpinning the Policy

National Asset	The coast must be retained as a national asset, with public rights to access and benefit from the many opportunities provided by coastal resources.
Economic Development	Coastal economic development opportunities must be optimised to meet society’s needs and to promote the wellbeing of coastal communities.
Social Equity	Coastal management efforts must ensure that all people, including future generations, enjoy the rights of human dignity, equality and freedom.
Ecological Integrity	The diversity, health and productivity of coastal ecosystems must be maintained and, where appropriate, rehabilitated.
Holism	The coast must be treated as a distinctive and indivisible system, recognising the interrelationships between coastal users and ecosystems and between the land, sea and air.
Risk Aversion and Precaution	Coastal management efforts must adopt a risk-averse and precautionary approach under conditions of uncertainty.
Accountability and Responsibility	Coastal management is a shared responsibility. All people must be held responsible for the consequences of their actions, including financial responsibility for negative impacts.
Duty of Care	All people and organisations must act with due care to avoid negative impacts on the coastal environment and coastal resources.
Integration and Participation	A dedicated, co-ordinated and integrated coastal management approach must be developed and conducted in a participatory, inclusive and transparent manner.
Co-operative Governance	Partnerships between government, the private sector and civil society must be built in order to ensure co-responsibility for coastal management and to empower stakeholders to participate effectively.

Source: Republic of South Africa 2000

5. Planning and Management

The coast is a distinctive system in which a range of considerations – biophysical, economic, social and institutional – interconnect, in a manner which requires a dedicated and integrated management approach. However, planning and management of the coastal development process is now enabled through proactive policy guidance from government to assist both the public and private sectors to achieve long-term, economically efficient, socially equitable, institutionally viable and ecologically sound coastal development (Republic of South Africa 2000).

The term “coastal management” itself came into common use with the implementation of the United States Coastal Zone Management Act of 1972. The Act recognised that a sectoral management approach, focusing on individual resources such as fisheries, or activities such as transport, was not working. A new coastal management approach was needed, involving integrated plans focused on selected issues of national and local significance. Focused coastal management efforts at a national level began in South Africa in the 1980s (Republic of South Africa 2000). The White Paper for Sustainable Coastal Development in South Africa then established a new facilitatory style of management, involving co-operation and shared responsibility with a range of actors in response to the great diversity of the coast and the lessons of experience.

In terms of the practicalities of coastal management the ICMA requires that representative Coastal Committees are established at a Provincial, District and local level to effectively coordinate activities on the ground. These committees need to comprise representatives of all stakeholders and are responsible for ensuring that integrated coastal management is implemented. The different tiers of government are also required to ensure that Coastal Management Plans are prepared to guide implementation.

Regarding management of coastal forests in particular, the Department of Water Affairs and Forestry (2004) advocates that management of forests should contribute to improved rural livelihoods and economies for local communities through sustainable forest management. Involving stakeholders in the management of forests – especially state owned forests – allows for the joint identification of needs and innovative ways to meet these needs. It creates ownership among stakeholders of the forest and hence, to its continued conservation, as that is the fundamental precondition for a sustained yield of benefits accruing to the local communities (Ibid). The Department therefore promotes participatory forest management, which is an approach to forest management, regulation and development for all forest resources in South Africa under the jurisdiction of the National Forest Act. The objective is that through participation in the sustainable management of forest resources these resources can contribute to local economic development and that the rights of all South Africans to benefit from the country's natural resources are protected, and the livelihoods of poor and previously disadvantaged groups are improved.

The policy states that it will transfer management of all state natural forests to other management agents, primarily Provincial Government Departments or agencies, but for participatory forest management to succeed, the institutions to which management of forests is transferred must adopt a management approach following the various measures which the Department has put in place, which are described as (Department of Water Affairs and Forestry 2004):

- Setting standards for management as a legal basis for the lease agreement, including communities' rights to be involved;
- Keeping communities informed about these rights;
- Developing a monitoring function to monitor, regulate and report on the status of participation on State Forests managed by other agencies;
- Intervening when necessary, to ensure sustainable forest management, by providing technical support to ensure that managers manage according to the agreed standards.

6. Development, Trade and Projects

Several different kinds of projects are currently in progress or have recently been completed to support coastal management in South Africa. Although government funded fundamental research aimed at understanding the biophysical character of the coast is ongoing (mostly undertaken by universities), many recent projects have focussed on management issues around fisheries and coastal livelihoods. These

management plans are required in terms of the ICMA, and have thus been seen as a priority in recent years.

Estuary Management Plans are being developed for at least 21 of the key estuaries around the South African Coast, while provincial Coastal Management Plans were completed several years ago. Several recent initiatives are now focussing on ensuring that coastal District and Local Municipalities develop their own management plans that are aligned to the Provincial Plans.

An important regional project recently completed was aimed at *addressing land-based activities in the Western Indian Ocean (WIO-LaB)*. The Wio-Lab project highlights some of the main environmental issues related to the degradation of the marine and coastal environment resulting from land-based sources and activities in eight countries in the WIO region, with South Africa among them. This project has been financed by the Global Environment Fund and Norway (US\$8 million) and by UNEP (US\$3 million) and by participating countries in cash and in kind (UNEP 2009). This is a major project of relevance to agriculture and forestry activities in all countries of the WIO region, including South Africa (Wio-Lab 2008).

To ensure sustainability of natural resources around the coasts and to secure the future livelihoods of coastal communities, several Sustainable Coastal Livelihood Initiatives have been introduced at provincial level across South Africa. Most of these programmes form part of the National Coastal Management Initiative driven by civil society, government (Department of Environmental Affairs and Tourism), and private businesses. The aim of the programme is to identify, promote and help establish non-consumptive or alternative coastal livelihood resources and it requires community ownership. A total of 17 sustainable coastal livelihood projects have been registered in South Africa since 1999 and their total estimated value is R360 million (State of the Environment South Africa no date). This approach has led to job creation and poverty alleviation in marginalised rural areas, and emphasis is now being placed on ensuring that these initiatives are sustainable in the longer term.

7. SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Vibrant economy based around major urban centres concentrated in the coastal zone ensures a prominence to coastal development issues at high policy level. • Coastal agriculture not just for subsistence but strongly for export too and this is likely to continue. • Value of coastal forests – directly to the economy and in terms of ecosystem services – readily acknowledged and solid efforts in participatory forest management already being made. • Excellent legislation in place to ensure sustainable coastal management. 	<ul style="list-style-type: none"> • Sustainability of small scale community livelihoods projects and efforts to manage coastal resources sustainably and at community level is a challenge. • Excellent national policy is not backed up by capacity to implement this policy at a local level. • Poor access and infrastructure in rural areas slows down sustainable development.

Opportunities	Threats
<ul style="list-style-type: none"> • South Africa is seen as an engine of growth across the continent and has an important political and economic role internationally, not just within Africa or the WIO region, which presents an incentive for policy-makers, government officials and civil society to work together to effectively manage coastal resources, develop non-marine resource based livelihood alternatives such as agriculture and forestry activities, and thus set an example to other countries (and perhaps even best practice) in doing this in a sustainable and participatory way. • Huge potential exists for responsible tourism development in under-developed coastal areas. • The relatively new concept of forestry outgrowers who obtain support from a commercial forestry partner could provide opportunity to communities in areas adjacent to commercial forestry areas. • Non-traditional high value crops could be grown in various marginalised coastal areas to bring benefits to communities. 	<ul style="list-style-type: none"> • The vested interests that have long held sway and economically dominated the coast (e.g. mainly private sector commercial interests) may not respond well to the policy shift in favour of more participatory community-based coastal resource management. • South Africa's land reforms still working their way through the system so it is not yet clear what impact this will have on access to and ownership of the land required for land-based economic activities like agriculture and forestry in the coastal region. • Increased tourism around the World Cup and thereafter may put additional pressure on coastal resources in areas where tourism is well established, which may create (temporary) employment but could also jeopardise some subsistence agricultural and forestry activities if not well managed, and there may not be sufficient capacity yet at local levels to manage a significant increase in tourist numbers. • Commercial forestry in the coastal zone may have a severe impact on biodiversity and seriously disrupt sensitive and rare habitats. • Lack of capacity at a local level to implement national policy could threaten effective implementation. • Poverty reduces options for coastal communities and encourages illegal activities that are detrimental to coastal resources.

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List of Datasets

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List of Sector-Related Projects

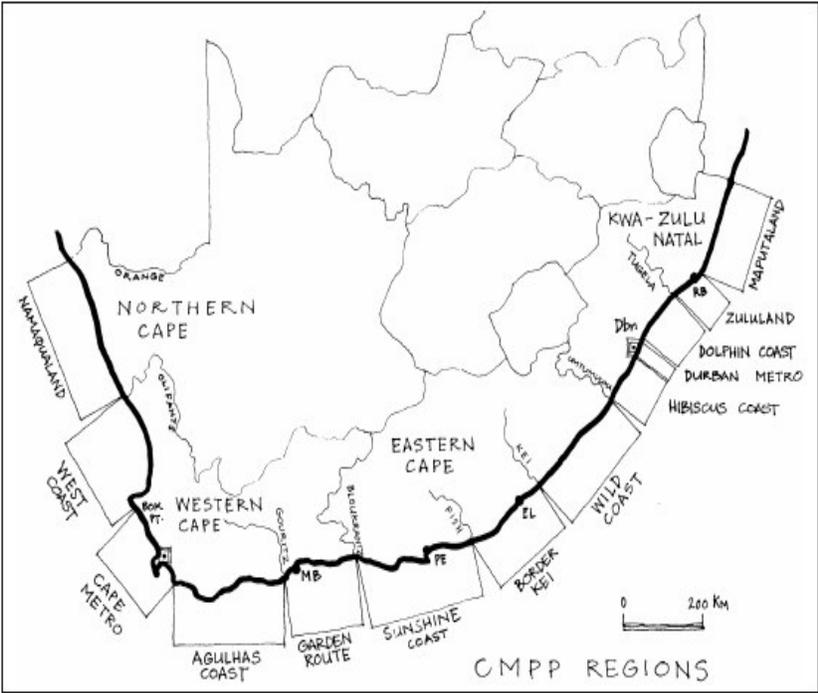
Agriculture Strategic Plan for the Department of Agriculture, Forestry and Fisheries

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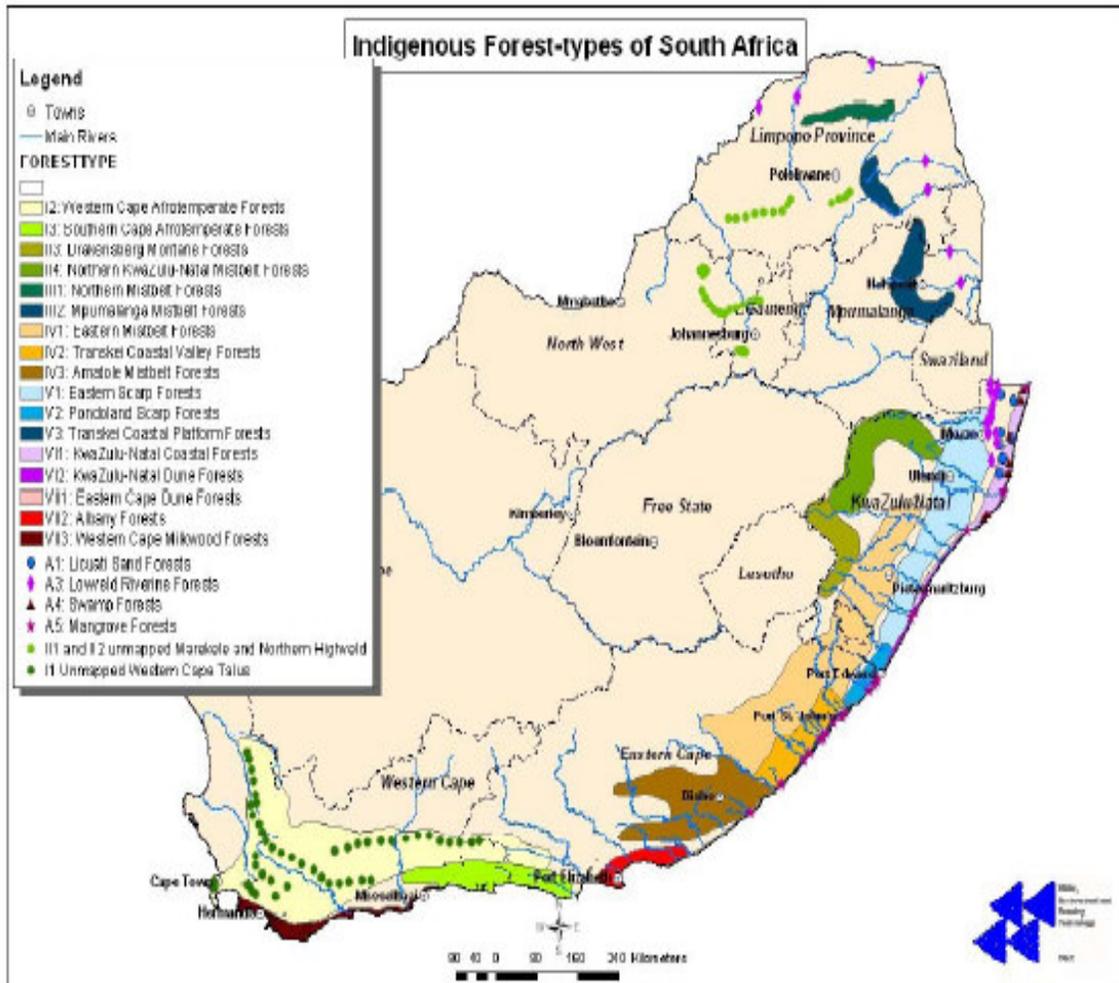
The Department's website also contains its 2008-09 annual report, which has similar information on activities and programmes carried out in the agricultural sector.
http://www.nda.agric.za/doaDev/topMenu/AnnualReports/2008_09/2008_09.html

Annex 1 – Map 1 – South Africa’s Coastal Regions



Source: (Republic of South Africa 2000)

Annex 2 – Map 2 – South Africa’s Forests



Source: (Department of Water and Forestry 2005)

Annex 3 – All References and Web-Links Identified and Reviewed in Report Preparation

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1. Introduction

The Republic of South Africa is a country located at the Southern tip of Africa, with a coastline of 2,798 kilometers on the Atlantic and Indian Oceans. About 47.2 million people live in South Africa, of which an estimated 11.6 million people live within 60km of the coast, equivalent to about 25 per cent of the country's population

In 1652, the Dutch East India Company established what would become Cape Town. The Cape Colony became a British colony in 1806. In 1910, The Union of South Africa was formed and became a dominion of the British Empire through the unification of the Cape and Natal colonies with the Orange Free State and the Transvaal. In 1931, The Union of South Africa became independent. In 1961, the Union of South Africa became the Republic of South Africa, vacating the British Commonwealth. In 1994, the apartheid era ended with the installation of Nelson Mandela as the first president of the modern Republic of South Africa.

South Africa has three capital cities; Cape Town, the largest of the three, is the legislative capital; Pretoria is the administrative capital; and Bloemfontein is the judicial capital. The country is divided into nine provinces, with much ethnic diversity due to immigration. South Africa is a constitutional democracy in the form of parliamentary republic and a parliamentary head of state.

South Africa is ranked among middle income countries, with a GDP per capita of more than \$ 5,000. The composition of national GDP is quite unusual for Africa, with only 3% from agriculture, 31% for industry, and 66% for services. Contribution of the oil sector to GDP is said to be more than 2% (1).

1.1 Oil and Gas Sector overview

Oil & Gas sector is a capital-intensive sector usually divided in two sub-sectors:

- Upstream activities with exploration and production. The prospecting phase, which includes drilling and operating the well, is a capital-intensive and specialized activity, executed by specialized corporations. The decision to exploit a field is dependent on a number of factors including the calculated exploitation costs, the price of oil, the political stability of the concerned country and vulnerability to natural hazards. There can be delays between the exploring and operating phase, as the owner of exploitation rights may wish to wait for more favourable conditions.
- Downstream activities include all the steps from refining to distribution and marketing. A refinery, or a processing plant, is also built by specialized corporations, however, it can use labour from the local workforce. Depending on the country's legislation, distribution is implemented and managed by the State or private firms, but relies more widely on the local workforce

Traditionally, the oil and gas sector in South Africa has relied on trading and processing. The first oil company was established in Cape Town in 1884 to import refined products.

Upstream oil activity has only existed in South Africa since 1990. The country's proven reserves are estimated to be 15 million barrels, however, production remains marginal (35,000 barrels per day (bbl/d)).

Proven gas reserves reach 320 billion cubic feet, with production in 2008 reaching 115 billion cubic feet (partly from coal refining).

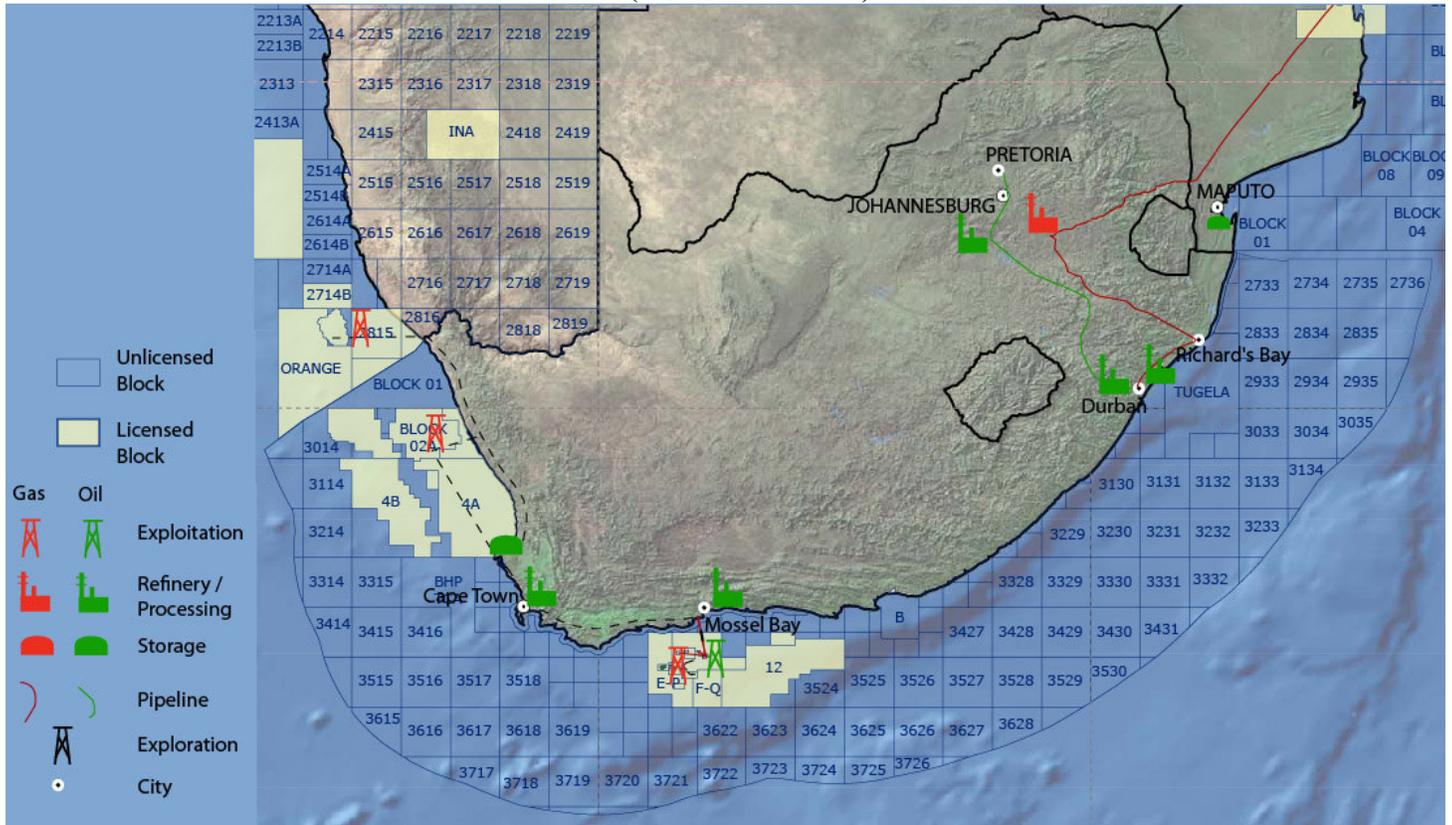
All of the proven oil reserves are located offshore in the south around the Bredasdorp basin and off the west coast of the country near the border with Namibia. South Africa has the second largest oil refinery system in Africa (692,000 bbl/d in 2008), with four refineries and two synfuel plants (cf. Table 1). The country imports approximately 380,000 bbl/d from members of the Organization of Petroleum Exporting Countries (OPEC). It also imports 95% of the Mozambican gas production (113 billion cubic feet), through the Temane/Secunda pipeline.

Table 1: Refineries of South Africa

Name	Owner / Operator	Location	Type	Capacity 2009 (bbl/day)	Comments
Sapref South African Petroleum Refineries	Shell and BP	Durban	Complex refinery	180,000	
Enref	Engen	Durban	Complex refinery	125,000	
Calref	Caltex	Cape Town	Complex refinery	100,000	
Natref	Sasol Ltd, TOTAL South Africa (Pty) Ltd	Sasolburg (crude oil transported from Durban through pipeline)	Complex refinery	92,000	Disinvested from 2008 capacity of 108,000
Sasol		Secunda	Synfuel plant	150,000	
Petro SA	Petro SA	Mossel Bay	Synfuel plant (GTL : gas to Liquid)	45,000	

The majors in the South African oil industry are BP Southern Africa, Chevron South Africa, Engen Petroleum, PetroSA, Sasol Oil, Shell South Africa and Total South Africa. They operate storage terminals and distribution facilities throughout South Africa.

**Figure 1: Map of the Oil & Gas activities in South Africa (adapted from Deloitte 2009)
(see also Annexe 1)**



There are approximately 4,600 service stations (forecourts, company owned and dealer owned) in South Africa.

Energy supply in South Africa is largely dependent on coal, partly due to the easily accessible, large deposits. A strong industry of synthetic fuels has been built, which has the ability to produce synfuels from coal and gas (about 160,000 bbl/d).

Directly related to the oil sector, a fabrication yard for offshore oil and gas platforms (built by German manufacturing company MAN Ferrostaal) was completed at Saldanha Bay in late 2007. Saldanha Bay, situated about 60 nautical miles north-west of Cape Town, is the deepest and largest natural port in southern Africa

1.2 Biofuels sub sector

Very little data on bio-fuel production is currently available, as South Africa is not yet involved in large-scale bio-fuel production. There are some bio-fuel projects being prepared, including a sugar beet project, which is currently the closest to implementation. This project is expected to produce 90 million litres of bio-fuel when it becomes operational.

The relatively low availability of suitable lands is one important factor (2), as shown in table 2 (in comparison to countries, such as Madagascar and Mozambique, which have several millions Ha available according to the same criteria).

Table 2: Potential availability of land (all areas in 1,000 Ha) From World Bank, 2010, “Rising Global Interest in Farmland : can it be sustainable and provide equitable benefits?”

Total area	Forest area	Cultivated area	Suitable non cropped, non protected			
			Forest		Non-forest with pop. Density of	
			< 25/km ²	< 25/km ²	< 10/km ²	< 5/km ²
121,204	8,840	15,178	918	3,555	1,754	649

Due to the growing demand for energy in South Africa, this topic is very much on the government’s agenda. In 2007, a biofuel industrial strategy was produced by the Department of Minerals and Energy, which intends to build an attractive framework for biofuel industries development, with the goal to replace 4.5 % of road transport fuels with biofuels by 2013. This strategy has triggered much debate (3) about whether feedstock for biofuels could, or could not, be used for food. Strong concerns have been raised about possible food prices increase (RHVP 2007), however, maize growers are very much in favour of including maize in the possible feedstocks.

1.3 Trends and prospects

PetroSA is currently at an advanced stage of a project for a world-class crude refinery in South Africa's Eastern Cape Province (Coega Industrial Development Zone near Port Elizabeth). The project, known as Project Mthombo, will create the biggest refinery in Africa (400,000 bbl/d) and is expected to be completed in 2015. It will create nearly 27,500 jobs during its construction and 18,500 permanent jobs in "SA's poorest province." (*Petro SA website*)

With respect to new gas production, PetroSA has stated that production from the Jabulani field has been delayed until 2012, while production in Ibubhesi is not expected until 2013

The development of biofuels in South Africa is creating an important debate, mostly focussed on food security risks. This issue has been raised, particularly when maize has been excluded from the biofuel industrial strategy. It has also been raised around the SASOL project, which will produce biodiesel from imported soybean (600,000 tonnes/ year) (4).

The same report quotes four major biofuel projects “in the pipeline”. One project (by Phytoenergy SA) could have a real impact on the coastal zone of the Eastern Cape Province with 500,000 Ha used for canola growing. A biodiesel refinery is also expected to be constructed in the East London Industrial Development Zone, which is to be completed by 2011.

2. Biophysical

South Africa's coast extends for about 3,000km from the Orange River on the western border with Namibia, to Mozambique in the east.

Table 3: National data on energy consumption and impacts of climate change

Energy use (kt of oil equivalent)	Combustible renewables and waste (% of total energy)	Fossil fuel energy consumption (% of total)	CO2 emissions (kt)	CO2 emissions (metric tons per capita)
134,337	10.17	87.74	414,347.10	8.74

Source : World Bank, year 2007

South Africa is widely using coal (75% of primary energy consumption), its major indigenous energy resource, to generate most of its electricity and a significant proportion of its liquid fuels. This is also why the country is the 14th highest emitter of greenhouse gases.

Table 4: Environmental and social issues of oil, gas and biofuel activities in the coastal zone

Coastal Oil & Gas Activity	Environmental issues	Social issues
Offshore exploration	<ul style="list-style-type: none"> Oil spills, accidents 	<ul style="list-style-type: none"> Restrictions for fishing zones Opportunities for employment
Oil & Gas transport	<ul style="list-style-type: none"> Oil spills, accidents Water and soil contamination Invasive species in ballast waters 	<ul style="list-style-type: none"> Risks of accidents (fire, collision, etc) Improvement of transportation network
Refineries	<ul style="list-style-type: none"> Oil spills, accidents Water and soil contamination Air pollution 	<ul style="list-style-type: none"> External workers increase risk of AIDS spreading Opportunities for employment Opportunities for new services (education, health,...)
Gas station and retail	<ul style="list-style-type: none"> Oil spills, accidents Water and soil contamination 	<ul style="list-style-type: none"> Opportunities for employment Opportunities of new services Fuel availability
Biofuels development	<ul style="list-style-type: none"> Swamp drainage Monoculture and biodiversity loss Pollution 	<ul style="list-style-type: none"> Opportunities for employment Opportunities for new services Competition for arable land

South Africa is situated on one of the world's busiest ship transport routes, particularly for the transport of crude oil from the Middle East to Europe and the Americas. Over 4,000 ships pass the Cape of Good Hope every year. According to Lloyd's Analysis of Petroleum Exports (APEX) database, approximately 1.25 million bbl/d travelled East, around the Cape towards Asian Markets from West Africa in 2009. Similarly, 2.25 million bbl/d, originating in the Middle East, travelled West, around the Cape and into the Atlantic Basin. Shipping, which is routed around the Cape, is exposed to extreme weather and sea conditions, which greatly increases the risk of major marine pollution incidents, particularly from oil tankers.

A major oil spill was recorded on South Africa's coast in 1983:

“CASTILLO DE BELLVER, carrying 252,000 tonnes of light crude oil (Murban and Upper Zakum), caught fire about 70 miles north west of Cape Town, South Africa on 6 August 1983. The blazing ship drifted off shore and broke in two. The stern section - possibly with as much as 100,000 tonnes of oil remaining in its tanks - capsized and sank in deep water, 24 miles off the coast. The bow section was towed away from the coast and was eventually sunk with the use of controlled explosive charges. Approximately 50-60,000 tonnes are estimated to have spilled into the sea or burned. Although the oil initially drifted towards the coast, a wind shift subsequently took it offshore, where it entered the north-west flowing Benguela Current. Although a considerable amount of oil entered the sea as a result of the CASTILLO DE BELLVER incident, there was little requirement for cleanup (there was some dispersant spraying) and environmental effects were minimal.” (5)

In 2002, Oilwatch reported the grounding of the freighter Jolly Rubino off South Africa's northeast coast, near the UNESCO-recognised St Lucia Wetlands. It was believed to contain between 1,000 and 1,500 tonnes of fuel and various toxic chemicals.

Generally South Africa's economic growth has come at a price, and many people conclude that Apartheid-era laws gave some South African companies a free hand, with little environmental accountability. Several serious incidents have been reported at SAPREF refinery in Durban (explosion

and fire in 1998, leakage of tanks and pipelines in 2001, toxic fumes, etc.). In 2004, toxic gases produced by Engen refinery caused several casualties.

Today, the country's environment is much better, particularly considering the comprehensive legislative framework that has been put in place.

“While South Africa has made progress in environmental management, there are increasing pressures on our resource base. Some aspects of the environment have deteriorated”. (6)

Through the SAPIA organisation, the major oil and gas companies have become involved in improving environmental management and accountability (cf Annex)

3. Human Environment

Rural parts of the coast, particularly those in the former Transkei, Ciskei and KwaZulu areas, are characterised by underdevelopment and a lack of economic opportunities, despite the enormous potential for particular coastal activities. Other characteristics include the absence of adequate roads, infrastructure, basic services, and a lack of institutional capacity. In major coastal cities, such as Cape Town, Durban and Port Elizabeth, there is massive urban poverty (7).

“Poverty mapping” of coastal areas reveals important differences between the Eastern, Southern and Western coasts. The Eastern region is obviously the poorest, particularly between East London and Durban (8, and map Annexe 2). Major oil and gas activities (exploitation, industries, etc.) are, however, located on the Western and southern Cape coasts, thus, it is highly unlikely that the oil and gas sector can contribute to improving local coastal livelihoods in the poorest regions.

At the national level, revenue leakages are likely to be relatively low. Big national companies are active players in the oil and gas sector and the contribution of the sector to the GDP is significant. The seven biggest companies (BP, Chevron, Engen, Petro SA, Sasol, Shell and Total) and their refineries employ about 10,800 persons (1). (a big refinery like SAPREF employs more than 1,000 staff and contract workers). General figures of the importance of the sector at the national level are given in Table 5.

Table 5: (From SAPIA annual report 2009)**The petroleum industry contributes to the South African economy by:**

- contributing 2% of South Africa's gross domestic product;
- supplying about 18% of South Africa's primary energy;
- manufacturing more than 90% of South Africa's petroleum products;
- supporting employment for over 100 000 people directly or indirectly;
- selling approximately 24.9-billion litres of petroleum products annually;
- investing R30-billion in refinery technology for the production of unleaded petrol and low sulphur diesel;
- spending more than R115-million on corporate social investment initiatives in 2009; and
- collecting over R35-billion in fuel taxes on petrol, diesel and paraffin which is an important source of revenue for the government.

It is also worth noting that the national workforce is already involved at the medium and top management levels. Figures given for the workforce profile of the sector (1, and Annexe 3) reveal that nationals represent 70% of top management level, 87% at the senior management level, 97% at specialist level and 99,7% for skilled and semi-skilled workers.

3.1 Socio-economic indicators**Table 6: National economic indicators**

GDP (million current US\$)	GDP growth (annual %)	GDP per capita (current US\$)	GDP per capita growth (annual %)	GINI Index (2007)
276,445	3.06	5,678.01	1.29	57.8

Source: World Bank, year 2008, and HDI

Table 7: National social indicators

Population, total (million)	Population growth (annual %)	Poverty headcount ratio at \$1.25 a day (PPP) (% of population)	Human poverty index (HPI-1)	Human development index
48.69	1.73	26.2 (2000)	25.4	0.683

Source: World Bank, year 2008, and HDI, year 2005

Table 8: National gender indicators

Life expectancy at birth, female (years)	Life expectancy at birth, male (years)	Literacy rate, adult female (% of females ages 15 and above)	Literacy rate, adult male (% of males ages 15 and above)	Gender-related development index (GDI)
53.06	49.97	88.1	89.9	0.680

Source: World Bank, year 2008, and HDI, year 2005

3.2 Details of corporate and social responsibility programmes of the oil and gas companies

All present companies in South Africa are committed to Corporate and Social Responsibility according to the international standards.

This commitment applies to their own activity and staff (with a special focus on HIV) however, pilot activities in the social and/or environmental field are more or less developed. None of these companies claim to have formally started programmes aimed at biodiversity offsetting.

Company	Corporate and social responsibility (CSR) – or Social benefits
Chevron	<p>Main areas:</p> <ul style="list-style-type: none"> • Education and training • HIV/AIDS awareness • Community development • Arts and culture • Environmental management, including education and conservation <p>Chevron supports formal education, including preschool and basic adult education, and encourages community development by promoting the arts, culture, good health and community services. Education about the environment and conservation are supported. Chevron also provides disaster relief and general assistance to the needy.</p> <p>As a way of developing the country's workforce, Chevron supports Black Economic Empowerment, a government initiative that helps women and historically disadvantaged people learn skills and obtain jobs.</p>
BP	<p>Main areas:</p> <ul style="list-style-type: none"> • Job creation • HIV/Aids • Road safety • Environment <p>More specifically, BP is supporting :</p> <ul style="list-style-type: none"> - Community-based job creation enterprises with Scarborough Fishermen's Company in Ocean view (near Cape Town) for 120 fishermen - . Eziko cooking school in Cape Town - Forest management and sustainable exploitation (outside of George, South Cape), creating 120 jobs - Alien vegetation eradication at Betty's Bay (96km from Cape Town) - A yearly campaign for waste management in Cape Town (Cleaner Caring Campaign)
TOTAL	<p>TOTAL South Africa is one of the 17 members of the ROSE foundation. ROSE (Recycling Oil Saves the Environment) is a non-profit organisation that manages the environmentally acceptable collection, storage and recycling of used lubricating oil in South Africa.</p> <p>TOTAL has also been supporting Ikhayalobomi Care Centre for people living with HIV/Aids since 2005.</p> <p>Total support Ocean View, a coastal community in the Southern Peninsula with a high level of unemployment. The Ocean View Association for the Disabled offered their services to WWF to work together towards more responsible fishing practices. Presently, handicapped people from the Ocean View community are able to assist WWF and contribute to a conservation project that protects endangered seabirds.</p> <p>Since 2005, TOTAL South Africa has donated R7, 5 million to My Acre of Africa. (formed in 2001 in partnership with the South African National Parks). Conservation projects that have benefited include:</p> <ul style="list-style-type: none"> • Anti-poaching programmes, • Protection of endangered species, • Conservation-linked community projects, • Wildlife translocation.

Engen	<p>Since 1993, Engen has invested more than R146 million in social investment projects and over R16 million in the last financial year alone. The concept of nation building remains the central tenet informing its CSI activities.</p> <ul style="list-style-type: none"> • Engen is involved in the MySchool initiative. The MySchool system creates partnerships between businesses and consumers in support of over 2,500 identified schools. • Ongoing work with the communities and schools in the Durban South basin, ensuring that the company remains a good corporate neighbour. • Engen is committed to support the Rose foundation • Engen is also a contributing member of World Wildlife Fund
Petro SA	<p>Over the last four years, the company has invested R101 million towards corporate social responsibility projects. These investments have largely been in the areas of education and training, women empowerment and health.</p> <ul style="list-style-type: none"> • Limpopo-on-line project established computer and science laboratories at 32 primary schools across the Limpopo Province, as well as computer and science laboratories at all five schools at KwaNonqaba in Mossel Bay. • Built a paediatric outpatient for children living with AIDS, as well as a pharmacy at St Mary's Hospital. • Bought equipment for the Department of Geology at the University of Fort Hare. • Provided ablution facilities at 10 primary schools in the Eastern Cape to assist in the fight against Cholera. • Supported Learn-to-Earn to build a community training centre at Hermanus in Cape Town to provide skills training to the unemployed. Click here for more information
SASOL	<p>In 2009, SASOL committed R80,5 million (excluding bursaries) to socioeconomic development projects, mostly in South African communities and along the Mozambique-Secunda pipeline route</p> <p>SASOL has channelled the majority of its social investments into five priority areas: education (35%), job creation (25%), health and welfare (25%), environment (5%), arts, culture and sport development (5%), with another 5% made available for small once-off grants.</p> <p>A carbon credit management committee has also been operational since 2008, which functions as a sub-committee of the greenhouse gas management committee and governs the group carbon portfolio.</p>
Shell	<p>Shell has been involved in social investment programmes for many years and is working to make them more effective at delivering real benefits for the countries and communities where the company operates. The company supports a wide range of community welfare initiatives and projects aimed at education or skills development; community development or social cohesion; health, environment and safety-related issues; and enterprise development and capacity building.</p>

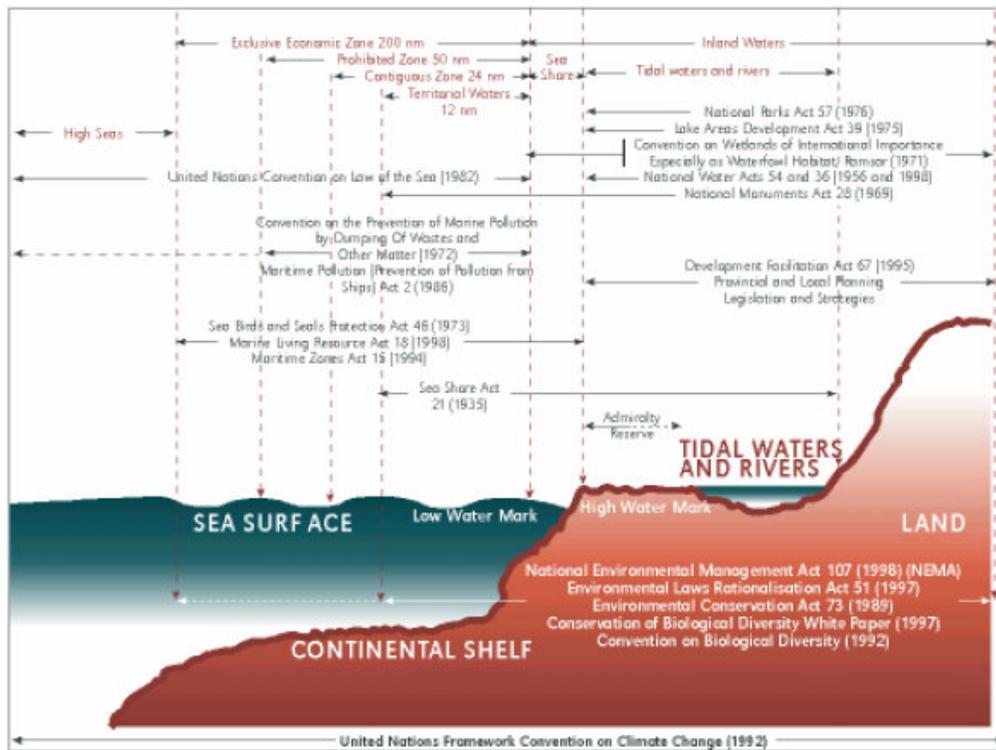
4. Policy and Governance

Nationally, South Africa's natural environment is governed by a wide range of legislative acts, including the National Environmental Management Act (No.107 of 1998), the Environmental Conservation Act (No.73 of 1989) and, of greatest relevance to marine and coastal resources, the Marine Living Resources Act (No.18 of 1998). The Marine Living Resource Act (MLRA) for the first time recognizes the subsistence fishing sector and acknowledges that many coastal communities in South Africa derive their livelihoods directly from marine resources.

The Integrated Coastal Management Act (NEMA – National Environmental Management Act – Integrated Coastal Management – No.24 of 2008) (ICMA), signed into law in 2009, further strengthens the legislative backing for effective management of the coast. The implementation of the above legislation does, however, remain a challenge at the local level.

A more thorough picture of coastal boundaries and their relevant laws and conventions can be seen in Figure 2 below.

Figure 2: Coastal boundaries in South Africa and Relevant Laws and Conventions (prior to 2000)



(In Dept. EAT 2000, “White Paper for Sustainable Coastal Development in South Africa”)

4.1 Policy and Legislation

Strategies / Regulations	Description – Comments
Oil and gas activities laws and regulations	<ul style="list-style-type: none"> • Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) • Mineral and Petroleum Resources Development Amendment Act, 2008 (Act No. 49 of 2008) • Mineral and Petroleum Resources Development Regulations (Government Notice No. 26275 of 23 April 2004) • Mineral and Petroleum Resources Royalty Act, 2008 (Act No. 28 of 2008) • Mining Titles Registration Act, 1977 • Mining Titles Registration Amendment Act, 2003 (Act No. 24 of 2003) • Mining Titles Registration Regulations (Government Notice No. 26352 of 14 May 2004) • Petroleum Products Amendment Act No. 2 of 2005 • Petroleum Pipelines Levies Act No. 28 of 2004 • Petroleum Products Amendment Act No. 58 of 2003 • Gas Regulator Levies Act No. 75 of 2002 • Gas Act No. 48 of 2001 • Petroleum Pipelines Act No. 60 of 2003 • National Energy Regulator Acts 40 of 2004 • Broad based Black Economic Empowerment Act No. 53 of 2003 • White Paper on the Energy Policy of the Republic of South Africa (Dec 98) • Petroleum Products Act. 120 of 1977

Environmental regulations	<ul style="list-style-type: none"> • National environment management Act 107 of 1998 • National Environmental Management Amendment Act of 2003 • National water act 36 of 1998 • GN No. 704 of 4 June 1999: Regulation on use of water for mining and related activities aimed at the protection of water resources • No. 39 of 2004: NEMA: Air Quality Act (AQA) • Atmospheric pollution prevention act 45 of 1965 • Environmental conservation act 73 of 1989 • SANS 1929 of 2005: South African National Standards, Ambient air quality – Limits of common pollutants, 2005 • GN No. R.385, 386 and 387 of 2006: Environmental Impact Assessment Regulations • Promotion of access to information act 2 of 2000
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Activities listed either as category 1 or 2 of the National Environment Management Act of 2006 require an environmental authorisation from the competent authority before commencement. The applicant is required to subject the proposed activity to an Environmental Impact Assessment (EIA). The competent authority decides whether to grant or refuse the authorisation based on the outcome of the EIA process. Depending on the type and scope of the activity, the activity must either be subjected to a basic assessment or to the more thorough scoping and EIA process. A provision is also made for an application to the competent authority to be exempted from any provision of the EIA regulation. The applicant must appoint an environmental assessment practitioner to manage the application for authorisation on his/her behalf. The environmental assessment practitioner must determine which process to follow, which includes; Basic assessment, scoping and EIA, or request an exemption. Generally, activities listed in category 1 must be subjected to basic assessment, while activities in category 2 are subjected to scoping and the EIA. After an activity has been subjected to basic assessment, the competent authority may order the applicant to subject the activity to scoping and an EIA, particularly if the competent authority could not reach a decision based on the outcome of the basic assessment process. An applicant can also obtain a written authorisation from the competent authority to subject an activity listed in category 1 to scoping and an EIA. The decision made by the competent authority to either grant or refuse the requested environmental authorisation may also be appealed.

4.2 Governance

Entity	Responsibility/ Description
Department of Minerals and Energy	The Department of Minerals and Energy in the South African government is responsible for the overall regulation of the mining industry and the oil industry in South Africa. The Ministry consists of the Department of Minerals and Energy, which is comprised the Energy Branch, the Mineral Development Branch and the Mine Health and Safety Inspectorate, as well as nine regional offices. The DME has a department branch in each province
National Energy Regulator of South Africa (NERSA)	Regulates policy over the entire South African energy industry and is responsible for implementing South Africa's energy plan
Petroleum Agency SA (South African Agency for Promotion of Petroleum Exploration and Exploitation)	Designated by the Mineral and Petroleum Resources Development Act, Petroleum Agency SA promotes exploration for onshore and offshore oil and gas resources and ensures their optimal development on behalf of government. The Agency regulates exploration and production activities, and acts as the custodian of the national petroleum exploration and production database.
Petroleum Oil and Gas Corporation of South Africa (PetroSA)	National oil and natural gas company (Government owned), which is responsible for managing and promoting the licensing of oil and natural gas exploration in the country. It has exploration and production activities around the world.
Department of Environmental affairs and Tourism	The role of the Department is to promote the enhancement of natural resources for sustainable and equitable use, and to protect and enhance the quality and safety of the environment. The Department is comprised of a Chief Directorate, who is responsible for Environmental Impact studies and management
South African Maritime and Safety Authority	SAMSA delivers four main outputs consistent with its mandate and responsibilities: <ul style="list-style-type: none"> • Safety and environmental protection standards for responsible maritime transport operations; • Infrastructure for monitoring and enforcing compliance with safety and environment protection standards; • The capability to respond to marine pollution incidents and other maritime emergencies; and • The capability to detect, locate and rescue people in maritime distress situations.

5. Planning and Management

Policy Planning Initiative	Objective
Reconstruction and Development Programme (RDP)	RDP is a South African socio-economic policy framework implemented by the African National Congress (ANC) government of Nelson Mandela in 1994
White Paper for Sustainable Coastal Development in South Africa in 2000	The White Paper for Sustainable Coastal Development in South Africa aims to promote sustainable coastal development through integrated coastal management.
Biofuels Industrial Strategy 2007	<p>The draft Biofuels strategy aims to achieve an average biofuels market penetration of 4.5 % of liquid road transport fuels (petrol and diesel) by 2013. This is achievable without excessive support by utilising surplus agricultural capacity. Until this target is achieved, licensed biofuels producers will have a linked licence condition for petroleum wholesalers to accommodate qualifying production volumes at Basic Fuel Price (BFP), which is the import parity price for local petroleum producers and is an element of fuel pricing mechanism, related pricing, and includes lesser discounts for added handling costs.</p> <p>Incentives – 100% fuel levy exemption for bioethanol and 50% for biodiesel</p> <p>The new strategy recommends sugar cane and sugar beet for bio-ethanol production and soybeans, canola and sunflower as feedstock for biodiesel</p>

The White Paper for Sustainable Coastal Development in South Africa sets out a new policy that aims to achieve sustainable coastal development through integrated coastal zone management (ICZM). In the past, coastal management in South Africa was resource-centered rather than people centered, and focused on attempting to control the use of coastal resources. The Sustainable Coastal Development White Paper sets out a people-centered approach which stresses the powerful contribution that can be made to reconstruction and development in South Africa through facilitating sustainable coastal development and maintaining diverse, healthy and productive coastal ecosystems.

It is quite enlightening to observe that the biofuel policy of South Africa relies on the downstream sector, with the assumption that if demand increases there, market mechanisms will assure the development of feedstock crops. In South Africa, land planning is not viewed as a relevant tool to monitor the biofuel sector, rather, the country is currently much more focused on land reform and the “post apartheid” transition. This vision is very different from the one developed by neighbouring countries, which is mostly focused on the spatial monitoring of biofuel crops areas.

6. Development, Trade and Projects

Development project	NGO / Donor / Private Sector	Project details
Western Indian Ocean Marine Highway Development and Coastal and Marine Contamination Prevention Project	GEF	Concerned countries : South Africa, Mozambique, Tanzania, Comoros, Madagascar, Mauritius, Seychelles and the Reunion Island. All countries are required to have a NOSRCP to provide a national framework for responding to oil spills and protecting coastal resources
Wild Coast Spatial Development Initiative Pilot Programme	-	This Programme, which started in March 2000, aims to achieve tangible economic and social development of previously disadvantaged communities (PDCs), both in terms of job creation and income generation.
Coast Care Programme	-	The Coast Care programme consists of projects and products that contribute to the goals and objectives of DEAT's coastal policy.

7. SWOT Analysis

<p>Strengths</p> <ul style="list-style-type: none"> • Strong and growing economy, offering good business environment and skilled workforce to the sector • Support of government to the Oil & gas sector, with growing energy demand • Proper legislation in place for environment in general, and more specifically for sustainable coastal management • Environmental regulations • Technical and financial capacity for agribusiness (and growing of biofuels feedstock) 	<p>Weaknesses</p> <ul style="list-style-type: none"> • National policies and strategies are not supported by implementation capacity at a local level. • Huge disparities among the population in terms of livelihoods, incomes, access to services, etc., which makes it difficult to build national strategies and policies applicable to all local contexts • Poor access to infrastructure in rural areas slows down sustainable development • Limited availability of land for biofuels
<p>Opportunities</p> <ul style="list-style-type: none"> • Oil and gas activities are implemented by large companies engaged in corporate social responsibility • The huge energy demand of the country calls for improving efficiency for oil and gas processing and use, and for supporting the development of renewable energies • In its role of regional leader, South Africa could be a model for sustainable coastal development 	<p>Threats</p> <ul style="list-style-type: none"> • Important maritime traffic along South African's coasts, with serious oil spill risks. • Rapid economic development could make the implementation of environmental legislative framework difficult • Economic interest of biofuels could reduce food crop areas and affect food security • Poverty reduces options for coastal communities and encourages illegal activities that are detrimental to coastal resources.

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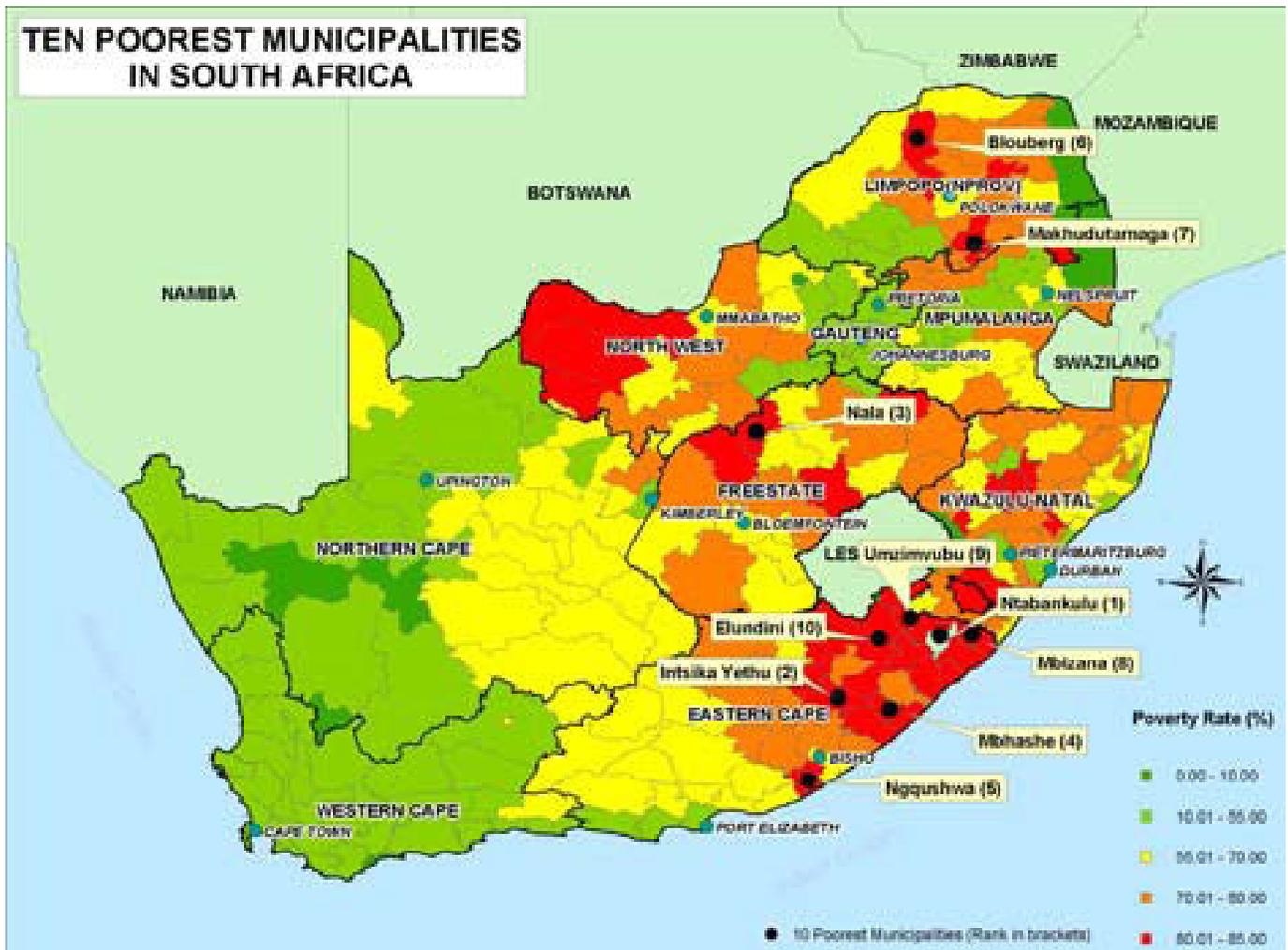
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Annex 2
Petroleum industry's most significant environmental risks and measures in place to mitigate these risks
SAPIA annual report 2009

Environmental risks	Measures taken to mitigate these risks
Oil spillage in the marine and freshwater environment	<ul style="list-style-type: none"> • Provision of oil spill response equipment to contain and recover any oil spillage. • Preparation of oil spill contingency plans and training staff to ensure readiness in case of an emergency. • Providing oil spill response equipment to the port (Transnet) and national authorities (Department of Environmental Affairs) that can be used in the event of an oil spill.
Fuel leakage from underground storage tanks	<ul style="list-style-type: none"> • Development of facility standards to prevent leaks, such as the installation of doublewalled tanks with interstitial monitoring, fitment of automatic tank gauging and fitment of double-walled piping. • The underground storage tanks have been coated in fibre glass and the pipework made of plastic to stop corrosion. • South African National Specifications have been developed to ensure strict tank and installation standards. • Development of a failure prediction index which predicts the potential for corrosion in older tanks and a national groundwater vulnerability map which are both used to prioritise the replacement of older tanks.
Fuel spillages from road and rail transportation	<ul style="list-style-type: none"> • Development of a response agreement that provides for the company owning a storage facility closest to a site of contamination to manage the remediation whether they are responsible or not. This ensures that timely action is taken. • Provision of 41 oil spill response trailers positioned on major transport routes for early response to any spillages. Oil spill response contractors have also been appointed. • Drivers receive regular training to improve safety performance during the transportation of products.
Release of vapour emissions from the storage and handling of hydrocarbons.	<ul style="list-style-type: none"> • SAPIA is undertaking studies to quantify risks and develop appropriate protocol to effectively manage these risks. • The Refinery Managers' Environmental Forum (RMEF) has developed a common emission management strategy, common emission reporting protocol and common flaring report protocol to manage the environmental implications of their activities. Individual refineries have invested heavily in the installation of new emission control technology. These are a few of the initiatives that have resulted in the significant improvement in emission releases.
Release of harmful vehicle emissions into the environment	<ul style="list-style-type: none"> • The Future Fuels Working Group is formulating a long-term roadmap to determine the most suitable fuel specifications for South Africa that, together with improved vehicle technology, will result in a reduction of harmful vehicle emissions.
Water and soil contamination from inappropriate disposal of used lubricating oil.	<ul style="list-style-type: none"> • SAPIA members, together with other lubricating oil marketing companies, founded the ROSE (Recycling Oil Saves the Environment) Foundation to manage the environmentally acceptable collection, storage and recycling of used lubricating oils in South Africa. The ROSE Foundation has collected more than 400-million litres of used oil since its formation in April 1994.

Fires and poisonings related to paraffin usage	<ul style="list-style-type: none"> • SAPIA members established the Paraffin Safety Association of Southern Africa (PSASA) in 1995 and launched a multi-million rand programme to minimise the incidence of fires, burns and poisonings.
Soil and groundwater contamination related to fuel loss	<ul style="list-style-type: none"> • SAPIA has designed appropriate contamination assessment and remediation strategies and put plans in place to manage these risks.

Annex 3
Poverty map of South Africa
(In HSCR, 2004, "Fact Sheet: Poverty in South Africa")



Annex 4
Workforce profile of oil & gas sector
(In SAPIA 2009)

The table below reflects the combined workforce profile for direct employees of SAPIA member companies and its refineries as reported to the Department of Labour in October 2007

Occupational Level	Gender	African	Coloured	Indian	White	Foreign National	Total	People with Disabilities
Top management	Female	1	0	1	1	1	4	0
	Male	10	5	5	24	20	64	0
Top management total		11	5	6	25	21	68	0
Senior management	Female	15	10	5	31	11	72	1
	Male	38	44	29	153	40	304	3
Senior management total		53	54	34	184	51	376	4
Specialists & mid-management	Female	220	155	102	268	16	761	5
	Male	475	315	296	919	55	2 060	17
Specialists & mid-management total		695	470	398	1 187	71	2 821	22
Skilled technical	Female	546	445	157	474	6	1 628	10
	Male	1 132	703	508	941	17	3 301	18
Skilled technical total		1 678	1 148	665	1 415	23	4 929	28
Semi-skilled	Female	243	151	38	119	1	552	8
	Male	1 408	387	124	152	1	2 072	3
Semi-skilled total		1 651	538	162	271	2	2 624	11

VI. Ports and Coastal Transport – Prepared by Professor Gavin Maasdorp, E-mail: gmaasdorp@imanidevelopment.com

1. Introduction

The Indian Ocean coastline of South Africa stretches from Cape Agulhas in the south to the Mozambique border near Manguze in the north. Along the 1620 km of coastline there are six major commercial ports, namely, Mossel Bay, Port Elizabeth, Ngqura (Coega), East London, Durban and Richards Bay. All these ports are linked to the interior by road and rail. The ports handled 224 million tons of deepsea import-export cargo in 2009. Coastwise shipping is significant only for the movement of about 3.0 million tons of petroleum products.

In this brief report the anchorages and ports on the Indian Ocean seaboard of South Africa are discussed in order from south to north.

Between Cape Agulhas, which marks the official boundary between the Indian and Atlantic Oceans, and Mossel Bay (a distance of approximately 300 km), there are a number of small anchorages and launching points that are used by local fishermen. From the south they include Gansbaai (which also has leisure cruises for whale-watching and shark cage diving), Struisbaai (local diving and line fishing), Arniston (fishing boats) and Vleesbaai (crayfish, abalone and line fishing). At these launch points small boats are beached or slipped but there are no deepwater anchorages or berths.

At Mossel Bay, safe anchorage and berthing within the harbour are provided. Mossel Bay has developed into the base for South Africa's offshore gas field that supplies the fuel-from-gas refinery which is located some 10 km inland from the port. In addition, the port is used by a small fleet of fishing vessels which target mostly inshore hake, horse mackerel and small pelagics.

The next port of historical significance is Knysna which is approximately 160 km east of Mossel Bay and has a large lagoon which can only be accessed via a somewhat treacherous entrance between the high Knysna Heads. This small port is now home to a small number of fishing boats and leisure craft.

St Francis Bay is the site of a large marina development used by sport fishing boats and leisure craft associated with the high class residential and tourism developments in the area. It is also the base for the majority of the South African squid fishing fleet, and provides various support services to this industry.

Port Elizabeth, with a population of about 1.2 million, is a busy commercial port and is one of two ports on Algoa Bay. The city is home to a number of companies in the automotive assembly industry. Port Elizabeth also has a small fishing fleet that targets south coast rock lobster, horse mackerel, squid and inshore hake. Ngqura (Coega), a new port opened in late-2009 is about 20 km north of Port Elizabeth. It was established by the South African National Ports Authority with the objective of providing a deepwater port to attract international container and bulk cargo shipping to this underdeveloped region of the country.

Approximately 190 km east of Port Elizabeth at the mouth of the Kowie River Port Alfred was established by the early settlers but the port development was never successful. Today a large marina approximately 2 km up-river supports leisure and fishing craft.

To the north-east of Port Alfred, East London (population 700,000) at the mouth of the Buffalo River is South Africa's only river port with a well-established commercial harbour and ro-ro facilities for the movement of motor vehicles and handling facilities for dry bulk cargo, POL and containers.

The coastline to the north-east of East London is largely devoid of suitable anchorages and the harbours at Port St Johns and Port Shepstone were abandoned.

Durban (population 3.5 million) lies approximately 100 km north-east of Port Shepstone and 680 nautical miles northeast of Cape Agulhas at longitude 31.02 E and latitude 29.52 S. The port, located in the large shallow estuary of the two rivers that feed into Durban Bay, has drafts of 12-15 metres and all modern cargo-handling facilities. As the biggest general cargo port in the southern Hemisphere, Durban provides the major entry point for import and export cargoes to the South African interior and a large proportion of the SADC region. The entrance channel has recently been widened to 220 metres with a draft of 16.5 metres, and the container terminal has been expanded to handle about 2.6 million TEUs p.a. The East Coast Prawn fishery is based in Durban and their catches are discharged in the port.

Approximately 100 km north-east of Durban, Richards Bay is South Africa's largest bulk port, handling approximately 80 million tons a year of various dry bulk cargoes, mainly coal, chrome ore, steel and timber products. The port has extensive expansion potential as it is located in the very large harbour formed by the estuary of the Mhlathuze River and Mngazi Lagoon with drafts of 18 metres and sufficient space for bulk ore carriers.

To the north of Richards Bay, the coastline is very regular apart from three estuaries that do not offer potential for port development.

2. Extent of Ports and Transport Activities

The parastatal ports authority operates eight ports, six of which are on the Indian Ocean seaboard as described above. The annual tonnage handled at these ports is shown in Table 1.1 below (excluding the recently opened Ngqura).

Table 1.1: Annual Tonnage of Bulk and Breakbulk Handled at South African Ports

SHIPPED

	Ports	RB	DB	EL	PE	MB	CT	SB	Total
Breakbulk	BB	3,971,752	2,355,519	305,067	371,565	0	263,634	547,097	7,814,634
Liquid	LB	1,105,316	1,366,681	0	0	129,991	188,374	160,376	2,950,738
Dry bulk	DB	67,872,562	4,286,831	358,043	2,786,778	0	6,841	43,481,038	118,792,093
Containers		39,732	16,663,612	288,246	3,072,118	0	9,723,812	0	29,787,520
Total		72,989,362	24,672,643	951,356	6,230,461	129,991	10,182,661	44,188,511	159,344,985
TEUs		2,838	1,190,258	20,589	219,437	0	694,558	0	2,127,680

LANDED

		RB	DB	EL	PE	MB	CT	SB	Ports
Breakbulk	BB	151,624	2,129,061	120,414	378,828	0	49,590	32,606	2,862,123
Liquid	LB	223,727	22,326,866	32,767	108,990	646,969	623,410	9,197,040	33,159,769
Dry bulk	DB	3,971,270	2,892,717	46,212	117,925	0	704,171	365,421	8,097,716
Containers		48,090	16,868,838	275,758	3,108,266	0	9,624,916	0	29,925,868
Total		4,394,711	44,217,482	475,151	3,714,009	646,969	11,002,087	9,595,067	74,045,476
TEUs		3435	1204917	19697	222019	0	687494	0	2137562

TOTAL

		RB	DB	EL	PE	MB	CT	SB	Ports
Breakbulk	BB	4,123,376	4,484,580	425,481	750,393	0	313,224	579,703	10,676,757
Liquid	LB	1,329,043	23,693,547	32,767	108,990	776,960	811,784	9,357,416	36,110,507
Dry bulk	DB	71,843,832	7,179,548	404,255	2,904,703	0	711,012	43,846,459	126,889,809
Containers		87,822	33,532,450	564,004	6,180,384	0	19,348,728	0	59,713,388
Total		77,384,073	68,890,125	1,426,507	9,944,470	776,960	21,184,748	53,783,578	233,390,461
TEUs		6,273	2,395,175	40,286	441,456	0	1,382,052	0	4,265,242

Note: RB=Richards Bay; DB=Durban; EL=East London; PE=Port Elizabeth; MB=Mossel Bay; CT=Cape Town and SB= Saldanha Bay

Source: TNPA

Table 1.2: South African Coastal Shipping – Tons by Port 2009

		SHIPPED tons p.a.							
		All Ports	RB	DB	EL	PE	MB	CT	SB
Breakbulk	BB	60,943		23,319		9	33,791	3,824	
Liquid	LB	3,291,062	7,494	1,658,803			863,954	760,811	
Dry bulk	DB	2,346	8	2,338					
Total		3,354,351	7,502	1,684,460		9	897,745	764,635	

		LANDED tons p.a.							
		All Ports	RB	DB	EL	PE	MB	CT	SB
Breakbulk	BB	52,264	24,386	24			16,431	11,423	
Liquid	LB	2,662,067	228,458	165,907	937,066	841,411	56,516	322,368	110,341
Dry bulk	DB	29,846		995			208	4,257	24,386
Total		2,744,177	252,844	166,926	937,066	841,411	73,155	338,048	134,727

Source : TNPA

The extent and descriptions of activities performed at South African ports are described from south to north in the following sections

Mossel Bay

The Port of Mossel Bay is almost dedicated to the handling of petroleum products, associated with South Africa's major gas to fuel project. Gas is pumped approximately 80 km from the offshore wells to the refinery. The Single Buoy Mooring (SBM) located in the bay handles 1.3 million tons per annum of fuel, which is a mixture of inward finished product and outward product from the state-owned PetroSA refinery located about 10 km from the port and connected by pipeline.

The dry-cargo section of Mossel Bay port is very small and handles only 80,000 tons per annum of which approximately 20,000 tons is fish and the balance is supplies for drilling and building. There is no current pressure on berth space, no back-of-berth pressure, and no motivation for current or future expansion.

Port Elizabeth

Port Elizabeth is the busiest port in Eastern Cape Province, providing bulk export facilities for manganese ore transported from the Northern Cape by rail, storage facilities for POL, and container and break-bulk handling facilities for the automotive assembly industry in the city. The terminals are described in the box.

Multi-Purpose Terminal - situated between the current container berths and the city and expansion is therefore limited in all four directions. It currently handles mainly steel and motor vehicles, and will come under berth space pressure in the future.

Container Terminal - handled 450,000 TEUs in 2007 but as Ngqura has been nominated as the container port for the region, the container terminal will move and that will provide the space required to extend break-bulk facilities.

Fruit Terminal - the pre-cooling sheds handle citrus and some apples produced in the area. There is some space limitation at the peak of the fruit season, but expansion is currently constrained by space considerations.

Manganese Terminal - the present volume (2.3 million tons per annum) is limited by the capacity of wagon discharge tippers and stacker re-claimers. The system is also old and in need of a complete renewal. A further problem is that the terminal is often to the windward of one of Port Elizabeth's major tourist beaches, and the dust blown from loading operations is a constant source of friction. It is not planned to review the position of the terminal until 2015, but tonnage is already being diverted to Durban.

Current planning assumes that the bulk liquids and manganese terminals as well as most of the container handling will be relocated to Ngqura.

Ngqura

The port of Ngqura is located about 20 km north of Port Elizabeth. The development of the port as a deepwater harbour is intended as a catalyst for industrial development. The first two berths have been commissioned for container handling and the rail lines on the quay are in place. It is intended to promote the use of the port for transshipment.

East London

The Port of East London serves the Border and Transkei areas, and has extensive facilities for handling grain and dedicated facilities for handling motor vehicles to and from the manufacturing plants in the city.

Throughput volumes show increasing bulk and containerisation. Conventional break-bulk traffic is losing market share to containers, and bulk carriers. Specialist vessels such as ro-ro car carriers are also more frequent callers to serve the import and export of motor vehicles.

Durban

The port occupies the natural expanse of Durban Bay - an area of 1,850ha, with the water area being 892ha in extent at high tide and 679ha at low. The entrance channel has been widened to 220 metres with a draft of 16.5 metres. There is deep water anchorage outside the port for vessels waiting for berthing or for orders.

Port Capacities and Services: The port operates 24 hours a day 365 days a year. During daylight ships are supposedly restricted to 243.8 metre length with a maximum width of 35 metre and a draught of 11.9 metre or 12.2 metre according to tide and harbour master's clearance. Larger vessels are common, and ships up to 300 metre length and 37 metre beam are regular callers.

The largest ships to have entered Durban harbour were in the region of 230,000 dwt but even larger vessels are catered for in the outer anchorage. On two occasions in recent years the largest vessel afloat, the 564,650-dwt ULCC tanker Jahre Viking (length 458 metres, beam 69 metres) underwent repairs or survey while at anchor off Durban. Pilotage is compulsory for all vessels from a point three nautical miles north-east of the port entrance, with a helicopter performing most pilot transfers, backed up by pilot boat when the helicopter is unavailable. Navigation is subject to VTS (vessels tracking service system) controlled from the Millennium Tower on the Bluff. Tug assistance is required. Draught within the port varies according to location.

Marine Craft: The port operates a fleet of tugs owned and operated by Transnet National Ports Authority (TNPA) of these, six are Schottel type with bollard pull of between 34-41 tons, and two are Voith Schneider 49-ton bollard pull. The tug fleet handles in excess of 800 ship movements each month. Dredging is continuous in the port and immediately outside the entrance to counter the littoral drift that would otherwise recreate the bar across the entrance channel.

Durban has two floating cranes with lifting capacity of 235 tons at 10 metres and 125 tons from 24 metres, and employs a number of launches and cargo punts. Several private companies provide commercial diving services, and the port also maintains a fully equipped diving team. The NSRI, which has moved into a modern base station at the Point, operates several deepsea and smaller rescue craft.

Port Facilities: These are described in the box.

<p>Container Terminal - almost all containers are handled at Durban Container Terminal (DCT). The terminal has 2,128m of quayside divided into ten berths. DCT has more than 13,000 ground slots and 500 reefer points, and handles an average of 50,000 TEUs per month. A rail terminal receives and dispatches containers to Johannesburg and other destinations as far afield as Zambia. DCT has expanded capacity from 1.9 million TEUs per annum in 2005 to 2.6 million TEUs by 2010.</p>
<p>Point Multi-Purpose Terminal (MPT) - the new MPT facilities at the Point incorporate a modern intermodal cargo exchange terminal, a bonded storage facility, and expanded cargo and container stacking areas covering about 20 hectares. Products handled include steel, ferro-alloys, granite, rice, fruit and containers.</p>
<p>Fresh Produce Terminal – refrigerated, also in the Point area at T-Jetty.</p>
<p>Passenger Terminal - for cruise ships. Located in the Point area adjacent to the MPT. Long-term plans foresee a new cruise ship terminal being built at A berth on the Point.</p>
<p>Durban Car Terminal - Is the country's largest import and export facility for the motor industry - handled 386,062 motor units during the fiscal year 2005/06, but this fell by about 25% in 2008/09 owing to the global economic recession.</p>
<p>Maydon Wharf - this area has a range of terminals handling break bulk and dry and liquid bulk products. The TPT multi-purpose terminal handles a variety of commodities, focusing on niche cargo including neo-bulks (salt, fertilisers and other mineral products, steel, scrap metal and forest products).</p>
<p>Private Terminals - a number of private terminals handle specific commodities. These facilities include: Bluff Coaling Terminal; Island View oil and petroleum complex; Fruit Terminal, Sugar Terminal and Wood Chip Terminal on Maydon Wharf; SA Bulk Terminals at both Maydon Wharf; and Island View; in addition to a number of other private facilities, mostly at Maydon Wharf.</p>
<p>Ship Repair Facilities - the main facility is the Prince Edward Graving Dock.</p>
<p>Bunkers -for fuel and gas oil.</p>

Fishing Fleet: Durban is home to a fleet of small seine net trawlers that work the Mozambique current and deliver to processing plants in the Wilson's Wharf area of the port.

Recreational Activities: Durban has three yacht marinas opposite the Esplanade at Wilson's Wharf and at Bayhead. Other activities including canoeing, kayaking, parasailing, fishing from boats, and bird watching at the Heritage Site (mangrove swamps).

Current Port Upgrades: Planning is in progress to extend container capacity. This will entail construction of a new terminal at Bayhead or even possibly a "dig-out" port on the site of the old airport at Reunion south of Durban Bay. The port and city authorities also propose a combined marina development in the area between Wilson's Wharf and the Tug Basin to be developed as a waterfront.

The port is being constrained by the residential and hospitality developments in the Point area and the central business district to the north and north-east. The Maydon Wharf area has a number of older terminals. The Bayhead ship repair area and the Island View liquid storage areas limit further expansion of the numbers of berths. A new marina is envisaged for the Vetch's Pier area immediately outside the harbour entrance subject to an environmental impact assessment and other regulatory matters.

Richards Bay

The Port of Richards Bay is 597 km from Johannesburg by road. Richards Bay was purpose-built in the 1970s to be the largest bulk port in South Africa, handling approximately 84 million tons of cargo per annum. The port has the deepest draft on the east coast of Southern Africa (entrance 17.5 metres) and also has potential to expand by a further 40 berths. The main export commodities are bulk coal and mineral ores that are received mainly by rail over distances of over 500 km. **Terminals:** These are described in the box.

Richards Bay Coal Terminal (RBCT) - privately owned, handles approximately 68 million tons annually, and has adequate berth space and in general terms adequate stack space. In recent years the ownership of coal being delivered to the terminal has been fragmented among a larger number of suppliers to accommodate small-scale "emerging miners", and there has been increasing demand for more but smaller and separate stacks. With over 30 possible grades and sorts, this poses huge problems for the management of the terminal.

Liquid Products Terminal - uses a berth adjacent to the RBCT, and is supplied from a tank farm. Berth utilisation is low.

Multi-Purpose Break-bulk Terminal (MPT) - handles approximately 6 million tons per annum of a range of break-bulk and bulk commodities (including ferro-alloys, steel, pig iron, wood pulp, pitch pencil, granite, paper and copper), on a common user basis. Berth occupancy has reached 70%, and congestion is occurring.

Dry-Bulk Terminal (DBT) - handles approximately 16 million tons per annum of chrome, magnetite, rock phosphate alumina, vanadium, sulphur, manganese and other dry-bulk products. The quays are served by a series of conveyors that come from various sheds, factories and processing units back of the berths and outside the port perimeter. There is adequate space for more processing plants, sheds, etc., but there is inadequate berth space as existing berths have reached 70% occupancy.

Current Planned Port Upgrades: The RBCT - is currently expanding and adding one extra berth and associated stack and handling equipment. It is expected that throughput will rise during the next three or four years to 91 million tons per annum, the rate of expansion will be dictated by the ability of TFR to increase the capacity of the coal line.

At the Liquids Terminal, tenders have been invited for the construction of the second berth alongside the existing one, while there are plans to increase the berth capacity of the multi-purpose and dry-bulk terminals. The plans for the MPT are to construct a liner extension to handle containers, two bagging sheds to increase capacity to bag manganese, and further shed capacity for steel storage. In addition, TNPA plans a container terminal with linkages by road and rail over the next 20 years.

3. Policy and Governance of Ports and Transport

All South African commercial ports are owned by the state and managed by the parastatal monopoly, Transnet National Ports Authority (TNPA), which also controls the railways and pipelines. Transnet also operates the biggest terminals in all ports through a subsidiary, Transnet Port Terminals (TPT), and is therefore landlord and operator of many of the port services. All maritime activities as well as tariff setting and control of spatial allocation are controlled by TNPA. The National Ports Authority Act includes clauses to terminate the control of the ports by TNPA, but the implementation is still not on the political agenda and is being strenuously resisted by the TNPA management and the Department of Public Enterprises, the ministry which controls the parastatals.

Fiscal limitations and corporate and political decision-making have negative impacts on efficiency and modernisation, and block private-sector capital investment in transport infrastructure and services.

The failure to adequately expand rail services for export commodities has cost the country dearly during the recent boom period. Lack of competition and economic pressure for performance have resulted in unsatisfactory rail services and have led to a massive expansion of road transport. This is likely to promote the use of ports in neighbouring countries such as Maputo for South African and possibly Walvis Bay for SADC trade.

4. Planning and Management of Ports

The monopoly control by Transnet means that port planning is “integrated” with TPT and with Transnet Freight Rail’s monopoly services with a view to optimising returns to the parastatal from a captive customer base of mining and heavy industrial customers. Management of all ports suffers from the conflict of interest between TNPA as landlord and TPT as terminal operator in competition with private terminals. Overall port costs are reportedly higher than they would be under a more competitive management model, and Transnet is planning to use the new port of Ngqura as a container hub, despite the fact that it is geographically distant from all major economic activities.

Maritime services are provided by Transnet within all ports, and a division of Transnet operates all lighthouses on the South African coastline. Maritime safety is controlled by the South African Maritime Safety Agency (SAMSA), a division of the Department of Transport that also provides liaison with international agencies and monitors compliance with international maritime law and

treaties. Search and rescue is handled by National Sea Rescue Institute (NSRI), with volunteer life-boatmen and paramedics stationed at main port cities.

5. Development and Trade

The past five years have seen dramatic increases in containerised imports of manufactured goods as the result of a consumer credit boom that came to an end in 2008. The world boom in export raw materials and primary products did not have a significant impact on South African industry as the rail services for coal, iron ore and other minerals proved inadequate to take up the significant increases in demand. Power and labour constraints have also hampered expansion in the mining sector.

There has been a recovery of container volumes handled in 2009-10, and exports of minerals remains at subdued levels. The reduction in manufacturing output and the adverse balance of trade with major trading partners, mainly India and China, are likely to dampen port throughput for the next 2-4 years.

6. Ports Impact and Benefits to Coastal Communities

The coastal residents vary considerably in their nature and economic circumstances. The impact of ports on the population of the coastal belt is very significant within the conurbations surrounding the ports, but limited in the areas outside the immediate port cities. As described in the introduction to South Africa, the coast between the ports are very rural in character, with minimal industrial activity.

In the southern section between Gansbaai and Port Elizabeth the coastal area is rural agricultural farmland with scattered residential areas devoted to tourism and small amounts of in-shore fishing from various launch points and estuaries. Independent research has, however, shown that small-scale fisheries, and their associated industries such as long-line fishing, crayfish and abalone, contribute significantly to the economic welfare of many towns and cities along the South African coastline (Booth and Hecht). Resource sustainability is the critical link in the chain. If there is overfishing, there will be no incentive to fish commercially or recreationally, and this will have serious economic impacts. The development of educational material and the review of resource-ownership issues, coupled with proactive monitoring and effective policing, is therefore imperative.

In the major port cities such as Port Elizabeth, East London, Durban and Richards Bay, there are high concentrations of industry and highly developed economic activities. At all these ports there are small numbers of commercial fishing trawlers. On the stretch between East London and Port St Johns, there is a large area of subsistence agriculture and limited interactions with the sea. To the south and north of Durban there are developed sugarcane plantations and scattered coastal tourist and residential areas, and leisure boating and skiboat fishing are practiced. North of Richards Bay are large areas of conservation reservations intermingled with commercial forestry and sugar plantations, all of which have limited interactions with the sea.

Further north, the indigenous forests and wetland development conservation areas provide tourism-related occupations for local inhabitants. The resorts of Sodwana and Kosi Bay attract numbers of skiboat fisherman, scuba divers and holidaymakers.

The throughput of Durban and Richards Bay tends to be driven by the major industrial and mining centres which are all located in the interior of the country. Between Durban and Johannesburg the N3 highway handles approximately 32 million tons of cargo and the rail another 7-8 million tons per annum. The Ermelo-Richards Bay line moves approximately 74 million tons of coal, timber and other bulk export commodities per annum, but these activities have minimal impact on the coastal communities outside the port cities. The cities of Port Elizabeth and East London depend heavily on the automotive industry. The coastal communities have benefited from the development of good roads and rail links along the coast between ports, with the exception of the stretch between East London and Durban where terrain has inhibited coastal road and rail development.

Due to the regular nature of the coastline with long distances between safe harbours and the heavy seas experienced along the Indian Ocean seaboard, there appears to be limited scope for direct participation by coastal communities in maritime activities using small vessels. The main estuaries suffer from regular severe flooding, making them problematic for aquacultural developments. The large proportion of the coastline that lies within traditional tribal homeland and dedicated conservation areas is also an inhibiting factor on development due to the complexity of land holding and the lack of historical seafaring activity. The current focus of land based development is on small-enterprise agricultural development and agri-processing, with some redevelopment of plantation forestry, maize, sugarcane and, in Transkei, sugar beet for biofuel.

7. SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Extensive development of main ports with modern facilities. • Largest general-cargo port in Southern Hemisphere and largest bulk export port in Africa. • Private-sector provision of road transport ensures timeous movement of goods. • Well-developed cargo clearing and handling systems to support import-export trade 	<ul style="list-style-type: none"> • Monopoly by state-owned enterprise reduces rail and port efficiencies. • Over-regulation stifles private-sector investment and initiatives. • Flawed transport policy is biased in favour of road haulage and has led to decline in rail transport. • Flawed black economic empowerment policy has led to loss of skills and declining efficiency of rail and ports. • Geography of coastline and heavy seas are not conducive to small craft operations. • Failure to develop coastal shipping between South African and other east coast ports. • Rampant corruption at all levels of government.

Opportunities	Threats
<ul style="list-style-type: none"> • Development of new industrial node at port of Ngqura. • Expanding container trade in Cape Town and Durban will create more jobs. • Long-term shift of manufacturing to the coast should increase transport efficiency. • Privatisation or concessioning of railways, ports and pipelines would increase efficiency and competition. 	<ul style="list-style-type: none"> • Continued unionisation of nationalised transport may hamper development. • Inter-port competition is favouring Mozambican and Namibian ports with less-restrictive operating environments for future corridor development. • Decreasing proportions of funding for national transport infrastructure and equipment from the fiscus may hamper port and transport growth. • Political patronage, labour-market rigidity, skills deficiencies and lack of training institutions pose threat to sustainability of port and transport operations. • Declining national manufacturing capability and increasing dependence on bulk commodity exports may place limits on ability to afford imports and inhibit port general cargo and container growth. • Failure of manufacturing economy to compete with imports from the East. • Growing political dissension could lead to radical left-wing government.

8. Information Sources

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VII. Coastal Mining – Prepared by Mr. Thomas Cushman, E-mail: tom@tomcushman.com

1. Introduction

The Republic of South Africa is a country located at the Southern tip of Africa, with a 2,798 kilometers coastline on the Atlantic and Indian Oceans. To the North lie Namibia, Botswana and Zimbabwe; to the East are Mozambique and Swaziland; while Lesotho is an independent country wholly surrounded by South African territory.

In 1652 the Dutch East India Company established what would become Cape Town. The Cape Colony became a British colony in 1806. In 1910 The Union of South Africa was formed by the melding of the Cape and Natal colonies with the Orange Free State and the Transvaal and became a dominion of the British Empire. In 1931 The Union of South Africa became independent. In 1961 the Union of South Africa became the Republic of South Africa and left the British Commonwealth. In 1994 the apartheid era ended with the installation of Nelson Mandela as the first president of the modern Republic of South Africa.

South Africa is known for diversity in cultures and languages. There are eleven official languages among them Afrikaans and English. It has three capital cities: Cape Town, the largest of the three, is the legislative capital; Pretoria is the administrative capital; and Bloemfontein is the judicial capital. The country covers 1,219,912Km², is divided into nine provinces. It is ethnically diverse due to immigration. South Africa is a constitutional democracy in the form of a parliamentary republic with a parliamentary dependent head of state.



Figure 1: Map of the coastal Mining activities in South Africa

2. Mining Sector Overview

South Africa is one of the worlds and Africa's most important mining countries in terms of the variety and quantity of minerals produced. It has the world's largest reserves of chrome, gold, vanadium, manganese and PGM (platinum group metals). The country's mineral industry can be broken down into five broad categories - Gold, PGM, Diamonds, Coal and Vanadium.

In 2008 the output from the mining industry accounted for 9.5% of GDP. Crude and processed mineral products accounted for 41% of the value of total exports. Employment in the mining industry amounted to 518,519

Mining production in South Africa has been decreasing as mines get older and deeper resulting in increased costs and decreased yield. The 2008 world economic crisis led to decreased demand and lower world wide prices also causing drop in production in South African mines. A serious electricity shortage in 2008 caused mining production to be curtailed by 10 %. No new electricity sources are expected to come online before 2012.

2.1 Coastal Mining Characteristics

South Africa's Indian Ocean coast is mined for heavy metals (titanium and zirconium) and limestone to be used in cement. The Richards Bay and KwaZulu heavy sands mines are mining sand dunes using hydraulic dredging. Extensive dune rehabilitation plans are required before the mining license is awarded. Thirty years of progress and experience in dune rehabilitation at the Richards Bay site have led to better techniques for dune rehabilitation and best practices.

Coastal mining activity	Company name	Production	Mining method	Production capacity (per year)	Stage of the project / status	Market
Heavy minerals	Richard Bay Minerals (RBM): Rio Tinto Group (50%) and BHP Billiton (50%)	Heavy minerals, ilmenite (Titanium dioxide, pig iron, rutile, zircon)	Hydraulic dredge mine	2.0 million metric tons of ilmenite annually (approximately 1M tons of titania, 550 000 tons of pig iron, 100 000tons of rutile, 250 000 tons of zircon)	Production	Export
Mineral sands	Exxaro KZN	Ilmenite, (titanium dioxide slag, slag fines, zircon, rutile, low manganese pig iron)	Hydraulic dredge mining	229,000 tons of ilmenite annually	Production	Export
Lafarge Cement Plant	Lafarge South Africa Ltd	Cement, Lime, aggregates	Open pit	2.4 million of tons/year	Production	Local Market and exportation
Simuma operation	Natal Portland Cement Co	Cement,	Open pit	1.5 million of	Production	Local Market

	(NPC CIMPOR)	concretes, aggregates		tons/year		and exportation
PPC Plant	Pretoria Portland Cement Co	Cement and aggregates	Open pit	670 000 of tons/year	Production	Local Market and exportation

2.2 Coastal Mining Activities Effects

Name of Mine	Location	Employment	Economic Benefits	
			National level	Micro level
Richard's Bay Minerals	Richard Bay	2200 permanent employees	<ul style="list-style-type: none"> • US\$185 million mining plant construction • Taxes and royalties 	<ul style="list-style-type: none"> • Employment • Corporate and Social Responsibility of the Company.
KZN Sands	Kwazulu Natal	364 permanent employees and approximately 256 contractors	<ul style="list-style-type: none"> • R3-billion of project investment • Taxes and royalties • 4000 indirect jobs 	<ul style="list-style-type: none"> • Employment • Implementation of a sustainable small, medium and micro enterprises (SMMEs),
Lafarge Cement Plant	Richards Bay, Port Elisabeth	880 direct employees	Taxes and royalties	<ul style="list-style-type: none"> • Employment • Corporate and Social Responsibility of the Company.
NPC Simuma Plant	Durban	500 permanent staff, and over 40 interns	<ul style="list-style-type: none"> • R800-million of total investment 	<ul style="list-style-type: none"> • Employment • Corporate and Social Responsibility of the Company.
PPC Plant	PPC has a lime plant in Port Elisabeth	3,164 employees	Taxes and royalties	Local market and Exportation

3. Environment

Coastal Mining Activity	Environmental issues
Richard's Bay Minerals (RBM)	<ul style="list-style-type: none"> • Air pollution from smelters exhaust stacks • Water pollution from hydraulic and dredge mine • Smelter and mine waste • Sand dune degradation and rehabilitation
KNZ Sands	<ul style="list-style-type: none"> • Air pollution from smelter exhaust • Water pollution from mining • Smelter and mine waste • Sand dune degradation and rehabilitation
Lafarge Cement Plant	<ul style="list-style-type: none"> • The cement industry generates emissions of dust, combustion gases, noise and particulate waste from kiln stacks. The operation also generates wastewater, waste from plant maintenance and laboratory waste
NPC Simuma Plant	
Cement Plant (Pretoria Portland Cement Co)	

4. Human Environment

4.1 Socio-economical Indicators

Social indicator	South Africa
<i>Social indicators</i>	
Total population (2010 est.)	49,109,107
Population growth rate (2010 est.)	-0.051%
HIV/AIDS prevalence rate	20%
<i>Economical indicators</i>	
GDP (2009)	\$287.2 billion
GDP (real growth rate)	-1.8%
GDP per capita	\$ 5,850

4.2 Corporate and Social Responsibility of the Coastal Mining Companies

Coastal Mining Activity	Corporate and social responsibility (CSR) – or Social benefits from the coastal mining activity
Richard's Bay Minerals (RBM)	<p>BEE Project: RBM has implemented a successful programme to create real business opportunities for historically disadvantaged Black Economic Enterprises (BEE's) to supply goods and services to the company. The scheme involves:</p> <p>Initiating new business ventures, and identifying and approaching existing disadvantaged small black owned businesses and helping them establish themselves as viable suppliers of goods and services to RBM, through a process of guidance, assessment and accreditation.</p> <p>The programme has been successful, with RBM now directly sourcing over US\$61 million dollars worth of goods and services from historically disadvantaged local BEE's annually. This in turn has resulted in the creation of over 1,600 new jobs, strengthened RBM's social license to operate, and through the outsourcing involved, helped to improve the business's overall management efficiency.</p> <p>Training of unemployed adults: Twenty unemployed adults - mainly women - from greater Richards Bay are set to become qualified miners.</p>
KNZ Sands	<p>KZN Sands implemented a programme in 1999 at eight rural high schools in its operational area to counter the lack of science laboratories in local schools. In association with Exxaro and the University of Johannesburg/Somerset Education, KZN Sands developed micro-science kits that can be easily transported to remote rural schools. Teacher workshops and training are part of the programme to ensure a better quality of education in these fields. Teacher skills are improved through workshops in partnership with the local education department.</p> <p>The District Municipality is a partner in establishing plant nurseries at the same schools to encourage farming entrepreneurship. Ultimately, improved farming techniques will provide a positive legacy for local communities long after KZN Sands operations have ceased.</p> <p>HIV/Aids is a national pandemic in South Africa and the highest percentages of HIV- positive people (41%) live in KwaZulu-Natal province. In 2002, a partnership was formed between KZN Sands and King Goodwill Zwelithini to educate communities at grassroots level through cultural awareness.</p>
Lafarge Cement Plant	<p>Lichtenburg Schools Recycling Project: Lafarge Cement involved local schools in Lichtenburg to participate in a recycling project which is aimed at sensitizing learners towards the importance of taking care of our planet. Through the programme learners will be taught how to recycle various materials, the role that carbon dioxide plays in the environment as a "greenhouse gas" and overall environmental awareness. They will also learn about individual carbon footprints and how everyone can make a difference and contribute towards the increased health of our planet.</p> <p>Education: Lafarge, in partnership with the Shanduka Foundation, added material value to the development of eleven schools in Bodibe. Lafarge's involvement was through the Lafarge Education Trust set up with its BEE shareholders.</p> <p>Umtholo Primary School: Lafarge Cement donated two pallet loads of cement, which were used in the refurbishment of Umtholo Primary School, at an informal settlement called</p>

	<p>Zonkizizwe, in the south of Johannesburg.</p> <p>Learner Focus Week This is an annual project of the Department of Minerals and Energy that Lafarge Cement supports. The aim of the 3-day event is to create awareness among high school and undergraduate students of the career opportunities in mining.</p> <p>National Youth Build This project took place during June 2009, at Eshowe in KwaZulu-Natal, to coincide with the celebration of "Youth Month". Lafarge Cement partnered the Department of Human Settlement and contributed R10 000 towards the initiative. Unemployed volunteer Eshowe youths are being trained in building skills while they construct 449 houses.</p>
<p>NPC Simuma Plant</p>	<p>One of the major recipients of the company's support over the past 12 years is the Project Build organization. To date NPC-CIMPOR has had its assistance valued at nearly R3-million and the placement of more than 2 000 schoolchildren in schools.</p> <p>The Simuma Conservancy is an excellent example of an untouched and closely monitored 250-hectare piece of land earmarked for birding, game viewing, hiking and educational visits. Management has been highly praised by KZN Ezemvelo Wildlife and Birdlife Africa for the manner in which large swathes of the reserve have been cleared of alien plants as well as for the thousands of disadvantaged schoolchildren that have visited the reserve.</p> <p>The Company is also focused on sourcing alternative fuels to burn clinker in their kiln at Simuma. This is considered an environmentally progressive project aimed at reducing its dependence on nonrenewable resources such as coal.</p>
<p>PPC Plant</p>	<p>Eastern Cape - Latita soap-making project The project was implemented by PPC's CSI department in partnership with the Calabash Trust and Summerstrand Hotels. Situated in New Brighton township, outside Port Elizabeth, it has created jobs for 15 women and one man who receive a stipend of R50/day, supporting 80 dependants. Construction of youth skills development centre in Willowmore, Eastern Cape. This project is included in the integrated development plan (IDP) of Baviaans municipality and created 700 local jobs during construction.</p> <p>Paving access roads and electrification of 150 households - as part of the IDP of Kgatelopele municipality, this project benefits Tlhakalatlou and Danielskuil townships in the Northern Cape and will create over 100 local jobs during implementation. Installation of solar energy at Diepsloot Skills Development Centre - provides skills development training for the community of Diepsloot as part of the IDP of Johannesburg City Metro.</p>

5. Policy and Governance

5.1 Policy and Legislation

Coastal Mining Regulations	Description – Comments
Mining activities laws and regulations	<ul style="list-style-type: none"> • The Regulation Gazette No 7949 of 23/04/2004 • The mining regulations in South Africa • The Mineral and Petroleum Resources Development Act No 28/ 2002 • The Mineral and Petroleum Resources Development Amendment Act of 2008 • The Mining Titles registration Regulations of 2004 • The Mining Titles Registration Amendment Act No 24/2003 • Minerals and Mining policy for South Africa, October 1998 • Minerals and energy law amendment act, 2005 • Broad-based Socio-economic Empowerment Charter for the South African Mining Industry • Sustainable Development: Strategic Framework for minerals, August 2009
Environmental regulations	<ul style="list-style-type: none"> • Mineral act 50 of 1991 (Regulation 992 – effective 2000, Minerals development Bill – expected towards end 2000) • National water act 36 of 1998 • Atmospheric pollution prevention act 45 of 1965 • Environmental conservation act 73 of 1989 • Promotion of access to information act 2 of 2000 • National environment management Act 107 of 1998, amended in 2006
Coastal Mining specific regulation	<ul style="list-style-type: none"> • National environment management : Integrated coastal management act, 2008 • Code for environmental management of marine mining

5.2. Governance

Entity	Responsibility/ Description
The Department of Minerals and Energy	<p>The Department of Minerals and Energy in the South African government is responsible, inter alia, for the overall regulation of the mining industry and the oil industry in South Africa. The Ministry consists of the Department of Minerals and Energy which comprises the Energy Branch, the Mineral Development Branch and the Mine Health and Safety Inspectorate, as well as nine regional offices.</p> <p>The DME has branch of department in each province of South Africa.</p>

The Chamber of Mines of South Africa	The Chamber exists as the Principal advocate of major policy positions endorsed by the mining employers and represents these to various organs of South African national and provincial governments and to other relevant policy-making and opinion-forming entities, both within South Africa and abroad. The Chamber also works closely with the various employee organizations in formulating these positions where appropriate.
Department of Environmental Affairs and Tourism	The mission of the department of Environmental affairs is to ensure the protection of the environment and conservation of natural resources.

5.3 Planning and management

Investment facilitator

The *Department of Trade and Industry (DTI)* provides a one-stop shop for investors, offering a variety of services to those interested in conducting business in South Africa - ranging from details on how to do business in the country to the different forms that businesses can take. Investment facilitation services for international investors.

Also, South Africa has regional agencies which aim to assist investors:

Eastern Cape Development Corporation

Official economic development agency for the government of the Eastern Cape province. Its vision is to be a primary contributor to the economic prosperity of the Eastern Cape through private sector development.

Gauteng Economic Development Agency

The Gauteng Economic Development Agency (Geda) is an investor's first port of call for developing business relations in Gauteng and the rest of Africa. Geda is Gauteng's official economic, investment and trade promotion agency and its mission is to promote the economic growth and development of the province.

Trade and Investment KwaZulu-Natal

Trade and Investment KwaZulu-Natal (TIK) aims to identify and package investment and export trade opportunities in the province, provide a professional and comprehensive service to potential and current investors and exporters, and to ensure easy access to investment and export trade opportunities and sustained aftercare.

Environment Management

Activities listed either in the Listing 1 or in listing 2 of the National environment management Act of 2006 require an Environmental Authorisation from the competent authority before commencement.

The Applicant is required to subject the proposed activity to an Environmental Impact Assessment (EIA). The Competent Authority will decide whether to grant or refuse the authorisation, based on the outcome of the EIA process. Depending on the type and scope of the activity, the activity must either be subjected to a Basic Assessment or to the more through

Scoping and EIA process. Provision is also made for an Application to apply to the Competent Authority and request to be exempted from any provision of the EIA regulation.

The Applicant must appoint an Environmental Assessment Practitioner to manage the Application for Environmental Authorisation on his/her behalf. The Environmental Assessment practitioner must determine which process to follow; Basic Assessment, Scoping and EIA, or request an Exemption. Generally, activities listed in the listing 1 must be subjected to Basic Assessment and listing 2 to Scoping and EIA. After an activity has been subjected to Basic Assessment, the Competent Authority may order the Applicant to subject the activity to Scoping and EIA, if the Competent Authority could not reach a decision based on the outcome of the Basic Assessment process. An Applicant can also obtain a written authorisation from the Competent Authority to subject an activity listed in listing 1 to Scoping and EIA. The decision made by the Competent Authority to either grand or refuse the requested Environmental Authorisation may be Appealed.

Integrated Coastal zone Management (ICZM)

The Integrated Coastal Management Act (ICMA) No 24 of 2008 came into effect in 1st December 2009. The ICMA is the first legal instrument of its kind, in South Africa, dedicated to managing the coastline in an integrated fashion and ensuring the sustainable use of the coast's natural resources.

5.4. Development, Trade and Projects

Policy Planning Initiative	Objective
White Paper for Sustainable Coastal Development in South Africa in 2000	The White Paper for Sustainable Coastal Development in South Africa aims to promote sustainable coastal development through integrated coastal management.
Reconstruction and Development Programme (RDP)	RDP is a South African socio-economic policy framework implemented by the African National Congress (ANC) government of Nelson Mandela in 1994

Development project	NGO / Donor / Private Sector	Project details
Wild Coast Spatial Development Initiative Pilot Programme	-	This Programme that started in March 2000 aims to achieve tangible and economic and social development of previously disadvantaged communities (PDCs) both in terms of job creation and income generation.
Coast Care Programme	-	The Coast Care programme consists of projects and products that contribute to the goals and objectives of DEAT's coastal policy.

6. SWOT Analysis

Strengths <ul style="list-style-type: none">• Strong environmental regulations and enforcement• Long tradition of mining• Government supports mining industry• Strong coastal zone development policy• Investment agencies for each province	Weaknesses <ul style="list-style-type: none">• Electricity shortage for mines• Conflict between mining, tourism and environmental interests
Opportunities <ul style="list-style-type: none">• South Africa is rich in mineral resources• Many mining projects on-going• Heavy sand potential in the Transkei area• Mining projects develop infrastructure, employment and ancillary business opportunities	Threats <ul style="list-style-type: none">• The federalism system of the government may affect the status of the project as the EIA process depends on the localization of the project.• Some political leaders call for nationalization of mines

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