

Towards Equity, Sustainability and Stability: A Sector Planning Approach to Fishing and Mariculture Development in the Northern Cape Province, South Africa.

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Abstract

A development mandate is explicit in South Africa's new fisheries legislation, the Marine Living Resources Act, which is based on the principles of equity, sustainability and stability. The new policy represents a significant departure from that of the previous Government, which largely confined its role to resource management. This presents a challenge in terms of the development of institutional strategies and capacity to promote socio-economic goals. A case study of a sector planning approach to fishing and mariculture development in the Northern Cape Province is described, as well as lessons learned from the experience. The economy of the Namaqualand coastal region of the Northern Cape Province is dominated by mining which is in decline, however fishing and mariculture offer a significant opportunity for sustainable economic development provided appropriate interventions are made. Specific initiatives have included the establishment of a representative community based Fishing and Mariculture Development Association (FAMDA), mentor support for emerging fishing and mariculture entrepreneurs, a socio-economic baseline and impact assessment of the potential of mariculture and fishery development, research support to promote fishery and aquaculture development, and the development of new projects and investments. It is concluded that the single biggest constraint to fishing and mariculture development remains institutional, and that well coordinated planning and institutional arrangements will be required if development goals of South Africa's new Marine Living Resources Act are to be realised.

Keywords: South Africa, fishing, mariculture, equity, sector planning,

INTRODUCTION

Democratic South Africa has seen the introduction of a model constitution and a plethora of supporting legislation aimed at promoting social equity, justice, equal opportunity, and economic development. While Government has been very good at developing a vision for a new South Africa, delivery on many policy goals has been lacking due to a lack of capacity. In the fishing sector in particular, the attempt to transform the South African industry has been severely constrained by inadequate institutional capacity and poor planning.

Prior to the 1994 democratic elections, the South African fishing industry was dominated by a few large, corporations, and fishery management was top-down and resource focused. The Sea Fisheries Directorate (now renamed Marine and Coastal Management - MCM) performed research, set TAC's and was responsible for compliance within the industrial and recreational sectors. Following the 1994 democratic elections, an extensive

participatory process among stakeholders resulted in the drafting of new legislation, the Marine Living Resources Act of 1998 (MLRA). This Act contains an implicit "development" mandate and the title of this paper reflects the Act's three guiding principles, namely, *equity*, *sustainability* and *stability*. It is against this policy backdrop that we have been part of a development and planning process in the Northern Cape Province.

The MLRA defines the management of fisheries and aquaculture as a national function to be administered by MCM. This resource focused national institution was, and largely still is, ill equipped for the task of implementing an Act that requires a complete re-engineering of the South African fishing industry. To date, implementation of the Act by MCM has focused largely on a "command and control" style of redistribution of access rights, and on resource management issues. Significantly the "transformation" process has lacked:

- Economic analyses and scenario planning.
- User participation in the restructuring the various fishing sectors.
- Capacity building and support of new entrants into the industry.

In the absence of any tangible development support from MCM, the Northern Cape Provincial Government, realizing that development of its fishing and aquaculture sectors was economically important, initiated a holistic process of sector planning and support which has resulted in significant development progress. This case study is described and we suggest how similar processes could be implemented within the wider South African fishing sector to realize the policy goals of equity, sustainability and stability.

THE NORTHERN CAPE PROVINCE STORY – Towards a Development Model for South African Fishing and Mariculture

One of the first Acts of the Mandela Government was the division of South Africa into nine Provinces, with Provincial Governments, which were more autonomous than the four provinces into which the country was previously divided. The Northern Cape Province is an arid region and is the largest Province geographically, but contains the smallest population (Figure 1). The coastal sub-region between Namibia and the Western Cape Province is known as Namaqualand and has been the focus of our efforts.

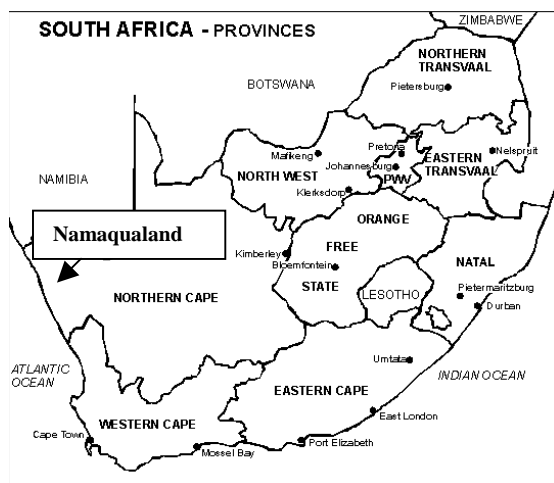


Figure 1. The South African provinces. The present study focused on the coastal zone of the Northern Cape Province.

In 1997, the Northern Cape Provincial Government compiled baseline studies on all sectors of its economy,

and formulated the “Northern Cape Province Development Strategy” (Anon., 1998). Fishing and mariculture were identified as key sectors to develop in the Namaqualand coastal region, because the Provincial GGP was shrinking as a result of the downscaling of mining. At this time South Africa’s new fishing policy was still only in a draft stage, and Marine and Coastal Management were not in any position to lend any development support to promoting fishing and mariculture in the Northern Cape Province.

The Province thus decided to press ahead on its own development initiative using capacities within Rhodes University, University of Cape Town, the Northern Cape Economic Development Unit and the existing fishing and mariculture industry. Funding was obtained from Great Britain’s Department for International Development (DFID) and Northern Cape Government.

It was realized that prerequisites for sector development included:

- An assessment of the economic potential of fishing and mariculture.
- A fishing and mariculture sector plan.
- The establishment of a representative organization through which Government could interact with interested parties in the Namaqualand region.

It was however realized that an immediate start should be made on priority projects which included support to:

- New companies from the community which had obtained hake fishing rights under the emerging fishing policy.
- Support to develop technology for abalone ranching off the Northern Cape coast.

ECONOMIC POTENTIAL OF FISHING AND MARICULTURE AND ITS PROJECTED SOCIO-ECONOMIC IMPACT – Justifying Investment of Public Funds in Development

A socio-economic baseline study of the Northern Cape coastal towns was undertaken based on the 1996 census data. This data together with our knowledge of the potential of fishing and mariculture was used to compile a socio-economic impact assessment which modeled various development trajectories for the two sectors (Mather, 1999). This exercise formed part of a stocktaking and diagnostic survey which informed the sector planning process.

Overview of the Namaqualand Coastal Economy

Namaqualand has an area of 47,700 square kilometres and a population of about 60,000 people. The region is semi-

desert and has limited potential for agriculture. The main economic activity of the region is mining, with two large and one smaller diamond mine, and two non-ferrous metal mines accounting for most of the formal employment. Goat and sheep herding was the traditional basis of the local economy, and a large portion of the population still depends at least partly on this activity (Ostenson, 1997).

Mining accounts for 58% of the Gross Geographical Product (GGP) of the Namaqualand sub-region. However, GGP declined by 32 per cent in real terms between 1980 and 1991, mainly as a result of adverse developments in the diamond mining industry. Formal employment fell from 87.5 per cent to 66.5 per cent of the economically active population. Both unemployment and the number of people active in the informal sector rose, while population declined. Employment declined in all sectors of the economy, including in those that have only very tenuous links to the mining sector, such as farming and fisheries. These trends have continued to the present time (Ostenson, 1997; Meyer and Rousseau, 1998)

It is projected that downscaling of diamond mining at the coastal mines of Alexkor and De Beers, and copper mining at Okiep, could result in a loss of over 5000 jobs in the mining sector (Ostenson, 1997; Reichardt, 1994). The rate of attrition will however be dependent on the strategies adopted by these mines. An understanding of the demographics and patterns of labour market access of Namaqualand are thus essential to planning the fishing and mariculture sectors to meet the developmental needs of local communities.

A comprehensive baseline study of socio-economic indicators for Northern Cape coastal towns of Port Nolloth, Alexandra Bay, Kleinsee and Hondeklip Bay was compiled, based on 1996 census figures (Mather, 1999). Port Nolloth and Hondeklipbaai are characterised by high unemployment (32% and 38% respectively), whereas Alexander Bay and Kleinsee, which house the employees and service sectors for the Alexkor and De Beers Kleinsee mines, are characterised by low unemployment (4% and 3% respectively). Although strategies to extend the economic lifetimes of the Alexkor and De Beers Kleinsee mines are being sought, the threat of an inevitable downscaling process is a sword of Damocles hanging over these towns. Employment in both Port Nolloth and Hondeklip Bay is heavily dependent on marine living resource exploitation, visibly, hake and associated bycatch, lobster, seaweed and subsistence fishing. Most people in this sector are employed on a part time basis. A strong gender imbalance exists in unemployment statistics with 46% of females unemployed as opposed to 24% of males. A detailed analysis of labour market access is provided by Mather (1999).

Status and potential of Fishing

In 1998 the South African fishing industry landed 484,000 tons of fish with a wholesale value of US\$228 million. Fishing has a long history in the Northern Cape, for example, the John Ovenstone factory was established in Port Nolloth in the 1920's and for many years was a leading South African fishing company. However, over the last two decades the industry has declined primarily due to the overfishing of lobster stocks. Lobster landings in the Northern Cape declined from a high of 1126 tons in 1969 to 33t in 1996!

The key features of the fishing sector in the Northern Province are outlined below:

- **Shore based infrastructure:** The lack of a deep harbour at Port Nolloth is a major constraint. However vessels of up to 23m can access the harbour making it possible for smaller trawlers and longline vessels to operate. There is only one fish factory currently operating, owned by the John Ovenstone company, which is underutilised and running at a loss. It is HACCP approved (appropriate health standards for export purposes) and has an annual processing capacity of 3000t.
- **Demersal trawl fishery:** Three local companies were allocated approximately 1600t of hake (*Merluccius paradoxus and capensis*) in 1999, just over 1% of the national hake TAC. Experimental licenses to catch West coast sole were issued in 1996 and 1997, of which over half the catch was processed in Port Nolloth.
- **West coast rock lobster (*Jasus llandi*):** Long the mainstay of the Northern Cape fishing operations, the resource has declined in recent years. This resulted in the closure of the Hondeklipbaai factory with a devastating loss of jobs. The 1999 lobster allocation to the Northern Cape was 33 tons.
- **Longline fishery:** Successful participation by local companies in the hake longline fishing experiment conducted by Marine and Coastal Management Fishing has resulted in an allocation of longline hake (400t) to Northern Cape companies.
- **Handline fishery:** While small in biomass compared to demersal fishing, snoek (*Thyrcites atun*) and other species provides many Northern Cape fishermen with jobs and is their main source of income outside the rock lobster season.
- **Tuna poling:** No tuna fishing is performed out of Port Nolloth, but some 179 tons are caught of the Northern Cape coast.
- **Small net fishery:** This is a subsistence fishery mainly for mullet (*Mugil* species). Although the seine and drift nets provide little of commercial significance, they do provide food security to the local community.

Despite the Northern Cape's 313 km coastline, most of the infrastructure of the fishing industry is located in the Western Cape. Recently, the allocation of an increased proportion of the hake TAC to new entrants from Port Nolloth has offered hope for increased socio-economic benefit from fishing. The hake allocation to companies registered in Port Nolloth increased from 686.6 tons in 1996 to 1429.6 tons or 1.05% of the TAC in 1997 and 1998. The Marine Living Resources Act of 1998 with its policy objectives of sustainability, equity, and stability encourages a shift away from large fishing vessels to a more diversified exploitation pattern, with an increased emphasis on smaller vessels, and in some cases less sophisticated or more affordable fishing methods. Hake longlining and trawling from smaller vessels is a good example of this shift and has proven to be viable at Port Nolloth. Longline hake is a premier fresh export product and exported fresh (on ice) to Spain. Corporate and newly established fishing community based companies in Port Nolloth possess the infrastructure and skills to process and export fish. The Ovenstone factory can process 3000t of fish a year. Despite this potential, a large proportion of the trawl hake allocated Port Nolloth companies was landed at ports in the Western Cape Province as these local companies had to contract other companies to catch their fish. Support is being provided to emerging fishing companies by Northern Cape Province and the Northern Cape Fishing and mariculture Development Association (FAMDA) to develop capacity (buy vessels) to land and process their entire catch at Port Nolloth. This includes the development of managerial and entrepreneurial skills and to access capital (Britz and Sauer, 1998).

The substantial seaweed resource that exists off the Northern Cape coast is currently marginal in economic terms, but one which holds significant potential for value adding, or as a feed for abalone (Freese 1995; Levin, 1996; Britz and Hecht 1997, Mather, 1999). South Africa currently supplies about six percent of world production of kelp, but suffers due to the relatively high cost engendered by West Coast logistics. FAMDA has recently facilitated harvesting rights for seaweed and six community based companies are developing commercial operations.

While most South African fisheries are maximally exploited, scope was identified to grow the industry in the Northern Cape Province by means of:

- Increased quota allocation to Northern Cape fisherfolk.
- Diversification of patterns of utilisation, including a wider variety of vessel size and gear targeting a greater range of species.
- Landing a greater proportion of allocated quota in Port Nolloth.
- Value adding, particularly of bycatch species.

A GIS database of research and fisheries data for the Northern Cape Province was compiled (Fairweather, 1999) and recommendations on development priorities in the fisheries sector identified by means of two workshops with FAMDA members.

Scope exists to optimise fishing methods using small vessels for trawling and longlining out of Port Nolloth (the shallow harbour precludes the use of large trawlers), in particular optimal targeting of hake and bycatch (Britz and Sauer, 1998). An immediate priority is the promotion of small scale fishing (for species such as St Joseph sharks, hottentot, snoek and harders) from "bakkies" (small dinghies with outboard motors) to increase employment and alleviate dire poverty among many fisherfolk. The necessary management capacity and infrastructure exists to support such a project. Further research on the target fish stocks is a required to ensure sustainability.

Status and Potential of Mariculture

Aquaculture is globally a growth industry which is driven by technology development. Aquaculture is typically an intensive farming activity producing high value products for niche markets. Mariculture along the Northern Cape coast is undeveloped, but this region probably offers the best opportunity for its development along the entire South African coastline, due to the low opportunity cost of developing mined out areas and the potential for abalone ranching in the sea. With respect to onshore mariculture a number of opportunities could be developed including abalone, oyster, seaweed, ornamental fish and food fish farming. Abalone, oyster and seaweed farming are already being developed by a number of companies and show considerable growth potential (Reichardt 1994; Britz and Hecht, 1997; Sweijd, *et al.*, 1998; Mather, 1999). Abalone ranching is the most important opportunity to develop in the short term as it is estimated that the coast could yield 1000t of abalone and the type of work (diving, boatmanship etc.) is well suited to the existing skills base.

Current mariculture activities on the Northern Cape Province include:

- **Abalone ranching:** At present there are two abalone hatcheries at Port Nolloth. Port Nolloth Sea Farms has pioneered abalone ranching (seeding of abalone into the sea) and is experimentally seeding kelp beds with abalone. The potential for shore based farming is good. .
- **Oysters:** A shore based oyster farm exists at Alexcor and a pilot growout operation is based near Koingnaas. Port Nolloth Sea Farms recently initiated an oyster hatchery to supply seed oysters.

- **Fish farming:** Port Nolloth Sea Farms is experimentally rearing Knysna Sea Horses (*Hippocampus capensis*).
- **Seaweed farming.** A pilot seaweed (*Gracillaria*) farm, operated by Taurus Chemicals, is situated at De Beers Kleinsee mine.
- **Single cell algal production:** Conditions in the Northern Cape (with low rainfall and high solar radiation) are ideal for this kind of production, and SASOL together with a joint venture partner is in the process of constructing a plant for full scale production after the successful completion of its pilot phase.

Because these are all new technologies requiring a long term vision and research to develop their full potential, it is necessary to facilitate technology development, invest in education and training and remove barriers to entry by investors. The Fishing and Mariculture Development Association (FAMDA), which was established in partnership with stakeholders, aims to facilitate these goals.

Research support for mariculture development has included the compilation of a GIS database for planning mariculture, digital mapping of kelp beds to plan kelp harvesting and abalone ranching, (Sweijd *et al.*, 1998, Klotz-Shiran, 1999, Sampson *et al.*, in press).

Projected Economic Impact of Fishing and Mariculture

A limited impact analysis of fishing and mariculture development on the economies of Namqualand coastal towns was performed (Mather 1999). Existing or proposed initiatives to develop hake fishing, seaweed harvesting, flatfish farming, oyster culture, abalone mariculture (ranching and shore based farming) and limpet harvesting were modeled from 20% of their potential, to full (100%) capacity over a 12 year horizon. These projections show that at 100% capacity, an estimated 3680 jobs would be created, generating R154 million disposable income in the target coastal towns. These estimates exclude the development of small scale fishing, new fishery resources, seaweed farming, and other forms of aquaculture such as marine ornamental fish, trout and salmon farming, an expansion of oyster culture, brine shrimp harvest and the establishment of new mariculture technologies (e.g. mullet, marine ornamental fish, other food fish, single cell algae).

A prerequisite for the realization of the projected socio-economic impacts is a strategic investment in R&D and technology transfer, and appropriate education and training targeted at local communities. With a strong technology push, that is a well funded technology

development programme, and industry partnerships, the fishing and mariculture sectors could be grown at a faster rate and to a larger size. The baseline study provides the necessary socio-economic data to inform appropriate planning and investment of public funds.

The mariculture and fishing sector along, the Northern Cape coastal zone has the capacity to provide sustained economic growth, and substantial growth in income and employment, for at least 20 years. For example, selected scenarios for abalone mariculture predict that by the year 2011, 2636 income generating and employment opportunities, with approximately R 130 million that directly, benefit the communities along the Namaqualand coastal zone, can be created. The net benefit to the tax base is estimated at R 68.5 million per year. Although the study clearly indicates that massive socio-economic benefit exists, it is by no means exhaustive and shows only part of the overall potential of the sector.

The most outstanding feature of mariculture is that it is not bound by the natural resource endowment as is the case with fishing. Given the correct environment, mariculture opportunities are created and the resource base can thus be expanded far beyond the existing natural resources on a sustainable basis. Fishing offers an opportunity for rapid short term development, whereas mariculture, which is technology driven, will develop more slowly but create more jobs over a longer period.

The aquaculture/mariculture sector in South Africa has lagged behind the rest of the world due to various political and economic factors, for example, lack of Government support, political transition, drought and recession. However, with particular reference to the Northern Cape, the environmental conditions are ideal, there is no industry and no real competition for land use¹ or labour, and mariculture also tends to provide some rehabilitation to the degraded coast line and derelict mining infrastructure is ideal for shore based mariculture (for example, oyster pond growth at Alexkor).

The realisation of mariculture opportunities is, however, dependant on a technologically driven approach. Some headway has been made in this respect, mainly for abalone ranching, but for this sector to take off, a concerted research and development effort along with overseas technology transfer², is an important

¹The coastal zone has been restricted due to the diamond mining operations in the region, but opening up of access to the coast and transferring of property rights is currently being negotiated.

²Given the ideal conditions for mariculture, foreign direct investment (FDI) into the industry becomes

prerequisite. The institutional setting, including government policy, must therefore play an important role in establishing this sector.

Many suitable mariculture opportunities exist for the Northern Cape coastline. An economic impact projection (Mather, 1999) which was confined to abalone and turbot, estimated that the following outputs were possible:

It is important to note that although mariculture creates resources and thus also economic opportunities, it requires human capital, technological effort, research and development and capital. Capital will flow to the centres if the conditions are right, for example, the technology has been developed through a concerted effort of research and development and the labour force has the relevant skills. In addition, technological transfers and foreign direct investment will be forthcoming if, in addition to the above, the policy framework provides attractive incentives comparable to, or better than, the rest of the world.

The hake resource and associated bycatch offers a development opportunity. For example, if 3000 tons of hake and associated bycatch were landed and processed in Port Nolloth, at least 450 direct and indirect full time permanent jobs would be created, which will contribute about R 12.5 million of disposable income to the town. For maximum socio-economic benefit, the resource rights should be allocated to those who intend using it as a means to a livelihood. The fish should be landed, and processed, as far as possible in Port Nolloth in order to optimise the socio-economic benefit to the community. By-catch, particularly for the smaller fishing vessels, is a good source of revenue and should be targeted accordingly. The advantages of longlining seems to be confined to its ability to selectively catch fish for the export market. Also, it lends itself to the use of smaller boats that can target the shallower water hake (*Merluccius capensis*).

The potential economic value of the kelp industry is not as large as that for mariculture and hake fishing, but it is nevertheless a potentially important industry. Based on estimates of wet biomass and the further beneficiation of kelp into alginate, this resource has the potential to economically sustain 290 individuals and add in the region of R 4.8 million of disposable income to the coastal communities in Namaqualand.

The limpet and mussel resource is not suited to medium or large commercial activity, but it can provide up to 60

low income earning opportunities for micro-scale operators.

For the benefits of the above opportunities to be realised there are certain pressing issues that first need to be addressed, for example, the transferability of human skills and training needs and whether the region can itself provide suitable manpower. In addition, mariculture is a high technology industry that requires investment in research and development and a large effort in investment marketing for it to expand. Also, the broadening of access rights to living marine resources coupled with a persisting legacy of political, economic, social and educational repression, means that continued backup advice and service is necessary for this industry to grow and succeed. To compound the problems, the issue of resource rights, or quotas, can rapidly create social strife, the mis-allocation of resources and ultimately leave the social and political economy worse off than before. These factors highlight the need for a stable and supportive institutional environment to promote the development of these sectors. Good progress has been made with Northern Cape Province's support for the Fishing and Mariculture Development Association, and the links that have been forged with Marine and Coastal Management, and financial institutions such as the Industrial Development Corporation and Business Partners.

It is clear that the development of the fishing and mariculture sector can bring about socioeconomic benefits. The scenarios indicate that, holding everything else equal³, the economy could become a labour scarce one. This is, however, is very unlikely because of the developments in mining, limitations such as food on the mariculture industry, limited funding for research and development, the uncertainty of forthcoming investment spending and foreign direct investment and the skills specific shortages.

Many inroads have already been made to alleviate the problems of allowing this sector to develop, particularly as a result of State support. This further highlights the need for a state led fishing and mariculture sector plan.

THE NORTHERN CAPE FISHING AND MARICULTURE SECTOR PLAN – A *Holistic Approach to Development*

Sector planning is a well established discipline which involves an analysis of socio-economic needs and the development potential of the relevant sectors (stocktaking

an attractive possibility, but only if the human skills are available in the region.

³For example, the state of mining employment, population and unemployment growth and inward migration.

and diagnostics). Based on this information development targets are set, resources required are defined, and strategies to overcome constraints are outlined. Within this framework projects are developed and resourced in terms of expenditure, research, consulting services etc. Sector plans are usually rolling plans which are revised yearly. The Northern Cape sector planning process used Colin Nash's book: *Aquaculture Sector Planning and Management* as a guide (Nash, 1995). The key elements included in the development of the Northern Cape were:

- **A stocktaking and diagnostic survey**
- **Sector plan Aims and Objectives**
- **Setting Development Targets**
- **Strategies to overcome constraints**
- **Projects**
- **Research and consultancy services**
- **Institutional arrangements and changes required**
- **Changes to policy**
- **Public sector funding**
- **Reporting and control**

Sector planning is a responsibility of Government, but by definition involves all stakeholders in a planning process. Northern Cape Provincial Government in partnership with the Northern Cape Fishing and Mariculture Development Association (FAMDA), a representative as association of individuals and groups with an interest in fishing and mariculture has facilitated a participative process, and the necessary research, to develop the *Northern Cape Province Fishing and Mariculture Sector Plan*. The plan forms part of the "Northern Cape Economic Development Strategy" (Anon. 1998). The Province is the custodian of the Fishing and Mariculture sector plan but implementation will be coordinated and driven by FAMDA. The sector plan is summarized below.

Sector Plan Aim (Declaration of societal goals):

To provide optimum socio-economic benefit from fishing and mariculture development to Namaqualand communities

Sector Plan Objectives:

1. Broaden access by Namaqualand communities to marine living resources through fishing and mariculture.
2. Promote sustainable utilisation of coastal resources.
3. Optimise long term economic value of these resources.
4. Promote and safeguard the interests of local communities with respect to development

opportunities within the fishing and mariculture sectors.

5. Grow employment and income from these sectors.
6. Promote empowerment, training and education so that local communities are able to realise the economic opportunities that exist within these sectors.

Development Targets and Resources Required

The sector plan objectives were translated into achievable development targets which have been prioritised so that allocation of scarce resources is done in an optimal way. These targets flow logically from the diagnostic study were developed in a participative process with FAMDA members.

Sector plan targets:

Short term targets (1-2 years):

- Establish a small scale fishing sector.
- Land hake quota allocated to Northern Cape Quota holders in the Northern Cape.
- Land and process the Northern Cape lobster quota in Namaqualand.
- Establish a fisheries or aquaculture project near Hondeklipbaai.
- Promote a marine fish farming project.
- Promote a shore based abalone farm.
- Establish an education and training initiative to provide skilled manpower for the anticipated growth in these sectors.
- Broaden institutional support base for sector development, ie. get Marine and Coastal Management, mining houses, development agencies, and other relevant Government Departments on board.

Medium term targets – (2-5 years)

- Create abalone ranching enterprises in the two other concession areas.
- Promote two aquaculture development nodes or "parks".
- Develop value added fish products, niche market products.
- Train BSc(Honours) graduates from local communities in marine science and food technology.
- Train commercial skippers (Grade 4), Marine Motormen, and Under 25 Ton Skippers

Long term target – (5-10 years):

- Absorb all projected unemployment from downscaling of mining i.e. create at least 2500 jobs over 10 years.

Resources required

Resources required to achieve the sector plan targets were identified. Key elements included:

- Training and education programmes
- Research and consultancy services
- Living marine resource management capacity
- Technology:
 1. Research and development
 2. Technology transfer
- Capital investment
- Institutional support base

Strategies to Overcome Constraints:

To overcome constraints and ensure the successful implementation of projects identified in the sector plan, strategies were defined in five key areas, namely: institutional, capacity building, resource management, investment marketing, and technological input.

Changes in Policy Required

Fortunately a policy framework has been defined in legislation within which the sector plan will operate. Relevant legislation includes the Marine Living Resources Act of 1998, the White Paper on Sustainable Coastal Development in South Africa and the Northern Cape Planning and Development Act. This Act prescribes the integrated development planning process within which all planning activities have to take place. The sector plan will also have to be consistent with the economic development plan for the Northern Cape.

Policies on institutional coordination, planning, and resourcing of sector plan initiatives are required from both Provincial and National Government.

Projects

Projects form the heart of a sector plan and are formulated and prioritised in terms of the targets set. Following two Sector Planning Workshops with stakeholders the following projects were identified and prioritized. These are summarized in Table 2.

A programme of public expenditure for the sector plan period:

The sector plan is a multi-faceted development strategy which should be funded from various Government, private sector and donor sources. Funding to date has

been short term with no specific commitment to the implementation of the sector plan in the medium to longer term (5-10y). Northern Cape Provincial Government and DFID provided seed funding to establish FAMDA, initiate priority projects, and perform research. Funds are now starting to flow from National sources through MCM on a project basis. Similarly the private sector is funding various commercial projects. However, if the sector plan is to be kept alive, at least medium term commitment to its maintenance is required from Government.

Table 2. Northern Cape Fishing and Mariculture Development Projects in 2000.

Current Projects

1. FAMDA capacity building and broadening of institutional support.
2. Demersal Fishery Development
3. Small scale fishing project
4. Lobster management
5. Abalone ranching
6. Seaweed mariculture
7. Limpet harvesting
8. Harbour and moorings
9. Seaweed harvesting
10. Oyster farm

Proposed Projects :

Initiate within 1-2 Years

1. Hondeklipbaai community project
2. Education and training of local community
3. Coastal Zone Management
4. Develop processing and value adding capacity for emerging fishing companies
5. Pump ashore abalone farm

Proposed Projects

Initiate within 2-5 Years

1. Two new abalone ranching areas
 2. Shore based marine fish farm
 3. Shore based salmonid culture
 4. Single cell algal culture
 5. Artemia harvest old diamond diggings
-

Changes needed to Institutions

The participation of MCM in the Northern Cape Provincial sector plan initiative has been constrained by a lack of a formal link between the Province and MCM, and a lack of a development capacity at MCM. Thus the respective roles Northern Cape Government and MCM need to be clarified so that the plan is properly resourced and managed. Due to a lack of development capacity in Government community/ public/ private partnerships will be vital. It is thus important to strengthen institutions such as FAMDA and links to MCM and other development

orientated institutions.

THE NORTHERN CAPE FISHING AND MARICULTURE DEVELOPMENT ASSOCIATION - *Community Participation in Development*

At the beginning of the sector planning process, it was realised that a representative organisation was needed to:

1. Articulate the needs and aspirations of the Namaqualand community in terms of the sector.
2. Promote development of the sector by means of projects, community outreach, business support, and building of institutional support.

This led to the establishment of the Fishing and Mariculture Development Association (FAMDA), a democratically constituted association of any person or institution with an interest in mariculture or fishing. FAMDA has been recognised as an “interest group” in terms of the Marine Living Resources Act by the Minister of Environment Affairs and Tourism. The FAMDA Chair sits on the Minister’s Consultative Advisory Forum. FAMDA is unique in that it is a “development” orientated interest group, as opposed to traditional industry associations which represent established sectoral interests. FAMDA’s mission is defined by its constitution, and its activities by a business plan. These documents together with the Fishing and Mariculture Sector Plan guide FAMDA’s activities.

FAMDA has obtained recognition in many quarters and has facilitated a number of processes such as sector planning workshops, quota applications and interactions with MCM. Northern Cape Provincial Government has funded a Development Officer and Administrator post and office overheads for a period of three years. Support for FAMDA projects has been sought from Northern Cape Province and MCM and thus the organisation is well positioned to “spread its wings” and realise the goals set in its business plan and the sector plan. The sustainability of FAMDA’s efforts will be critically dependent on ongoing fundraising activities. Recently, the organization has been successful in attracting funding from National Government and the mining industry to support a number of projects including community based seaweed and limpet harvesting and small scale fishing.

CONCLUSIONS

At the end of a three year process of research, planning and development support the Northern Cape Fishing and Mariculture sectors are well positioned to undergo a period of sustained growth. This assumes that the sector plan will continue to attract public sector support, and that

the necessary investments are made in technology development, capacity building and training, and institutional coordination. The success of the Northern Cape experience to date can in a large measure be ascribed to proactive leadership on the part of the Province, and its commitment to facilitating a rational planning process.

In terms of National policy it is clear that equity, stability, sustainability will not be achieved simply by broadening access rights to resources, while maintaining resource management capacity. Unless policy implementation includes economic planning, user participation in sector planning, and capacity building of new entrants we will fall short of our policy goals.

If the Northern Cape experience is compared with the National effort to transform the South African fishing sector, the lesson is that holistic planning is essential for delivery on policy goals. The components of the Northern Cape sector plan are multifaceted and embedded in the uniqueness of the environment and people of the area. This suggests that a regional focus is needed in planning of delivery. In the recently announced White Paper for Sustainable Coastal Development in South Africa, the delivery process is more carefully outlined and in fact emphasises a more local, participative and coordinated style of management.

An additional product of the participative planning process in the Northern Cape has been the “buy-in” and enthusiasm it has promoted among stakeholders. There is off course a concomitant risk of raising expectations, which may not be fulfilled. Implementation of some sector plan projects has been delayed or halted due to weak institutional capacity and coordination. At least two projects collectively worth R40 million were shelved due to an inadequate response to applications for aquaculture permits, and access rights to the abundant kelp resource. The biggest constraint to fishing and mariculture thus remains weak institutional capacity at MCM, and poor coordination between this Department and other stakeholder institutions. The present study also illustrates that a multi-disciplinary approach is essential to researching and developing these sectors. Due to a scarcity of resources it is clear that Government will not equip MCM with the capacity of other development orientated government departments, for example, the Department of Agriculture. Development partnerships between MCM, and the Provincial Governments, Dept. Agriculture, universities and research institutions, development agencies, interest groups and NGO’s and the private sector will be essential to realize Governments policy goals. What is required from MCM is the leadership and resources to facilitate and coordinate these institutional capacities.

ACKNOWLEDGEMENTS

The community of Namaqualand is thanked for its inputs, patience and faith in the processes described above. Project funding was provided by the Department for Economic Development (DFID) and Northern Cape Department of Economic Affairs and Tourism.

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