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Current state of extension and advisory services in South African fisheries

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Discussion document

Mafaniso Hara and Moenieba Isaacs

PLAAS, UWC, P/Bag X17, Bellville

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Abbreviations

DAFF	Department of Agriculture, Forestry and Fisheries
DDG	Deputy Director General
DEAT	Department of Environmental Affairs and Tourism
EEU	Environmental Evaluation Unit
EEZ	Exclusive Economic Zone
ICCAT	International Commission for the Conservation of Atlantic Tunas
IFM	Institute for Fisheries Management and Coastal Community Development
IOTC	Indian Ocean Tuna Commission
ITQ	individual transferable quota
MCM	Marine and Coastal Management
MLRA	Marine Living Resources Act
MPA	Marine Protected Area
NEMA	National Environmental Manager Act
NORSA	Norwegian-South Africa
NGO	non-governmental organisation
OMP	Operational Management Procedures
PLAAS	Institute for Poverty, Land and Agrarian Studies
RMWG	Resource Management Working Group
SAPFIA	South African Small Pelagics Fishing Association
SASSI	Sustainable Seafood Initiative
SMME	small and medium-size enterprises
SWG	Scientific Working Group
TAC	total allowable catches
TAE	total allowable effort
VMS	Vessel Monitoring Systems
WWF	World Wildlife Fund

Executive Summary

The fishing industry can be divided into marine, recreational, aquaculture and inland sub-sectors. The marine sub-sector is the main commercial fishing sector comprised of industrial fishing and also small-scale fishing, the latter having just been gazetted in June 2012. The recreational sub-sector has the most participants with over three quarters of people participating in the sector. The last two are new sectors that are currently being created and legally formalised. The marine small-scale fisheries, inland fisheries and community aquaculture have been established on the basis of providing for food security and poverty alleviation for coastal communities and inland rural communities.

Prior to the revised Marine Living Resources Act of 1998, only marine commercial fishing and recreational fishing had been legally recognised as the fishing activities. Fisheries management had thus been the conventional science based centralised type whereby government was solely responsible for management of fisheries. Because fishing rights were only given to a few entities, an exclusionary type to co-management between government and the few players was possible. As a result of this past management approach, government had not developed a formal extension capability. This changed after the end of apartheid in 1994 and the entry of increase numbers of rights holders into the industry as part of transformation of the industry. Despite the entry of increased number of people into the industry, interaction and consultation between government and industry has been formalised through scientific and management working groups. Participation in these working groups is through representation by a selected member of a rights holders association, meaning that those that do not belong to industry associations are not represented. Industry associations also make use of private (consultant based) advisory and legal services. Other coercive forms of advice to industry by both international and national organisations are the market and consumer based initiatives such as certifications and fair trade.

The dire need for an extension and advisory service to the industry by government is likely to particularly important for small-scale fisheries, inland fisheries and community aquaculture given that participants in these sectors are likely to be poor and thus cannot afford the use of private services. One approach that has been tried in the past for dealing with small-scale fisheries have been attempts to establish co-management arrangements. Although co-management committees can be used as vehicles for passing on advice and other extension services, the approach remains a biased towards management rather than as a vehicle for provision of advice and/or extension services to resource users. DAFF will thus need to build an extension service in order to cater for these sectors.

1. South African Fishing Industry – Introduction

South Africa has a coastline 3 623 km in length spanning from the Orange River on the border with Namibia to Ponta do Ouro on the Mozambique border. The western coastal shelf is the most productive as a result of the Benguela current upwelling and thus supports highly productive commercial fisheries. Productivity declines eastward on the Indian Ocean though the area is characterised by high species diversity, including both endemic and Indo-Pacific species.

In 2009, the landed value of the commercial fisheries in South Africa was approximately US\$ 714 million. Commercial fisheries employed approximately 43 000 people directly (but not necessarily full-time). In 2006, 3,019 commercial quotas were allocated across the quota of regulated species¹ and 1,400 vessels actively fishing in the Exclusive Economic Zone (EEZ). The commercial fishing landed reported catch for 2007 was 551 794 tonnes. The annual landed value of the deep-sea hake fleet is US\$71 million or US\$6 per kilogram (Feike 2008; Financial Mail 2010). The biggest Johannesburg Stock Exchange-listed fishing companies are I&J, Oceana, Sea Harvest and Premier Fishing. The unlisted, yet important fishing companies are Marine Products, Viking Fishing and Lusitania (Financial Mail 2010). All these companies are vertically integrated and, together, they dominate the catching, processing and marketing of their quota of regulated species.

South Africa's fishing industry is regulated by the Department of Agriculture, Forestry and Fisheries (DAFF); branch Fisheries². The industry (commercial and recreational sectors) is valued between 4 to 5 billion annually. The industry is divided into three sectors, namely commercial, recreational and small-scale. The commercial sector is managed either through total allowable catches (TACs), total allowable effort (TAEs) or a combination of both for each species. Following transition to democracy in 1994, the industry has undergone significant changes as a result of the drive towards transformation to benefit previously disadvantaged persons or groups, with the primary mechanism for transformation being the granting of fishing rights.

2. Main sectors

A number of sectors can be defined in fisheries. Here we categorise the sectors into marine, inland, recreational and Aquaculture. Short descriptions of these are provided below.

2.1 Marine sub-sector

2.1.1 Main commercial species

The marine commercial sector is divided into quota and non-quota sectors, the former being significantly larger in terms of value and quantity. Quotas currently exist for hake, Agulhas sole, pilchard, anchovy, rock lobster and abalone. Horse mackerel is managed according to a precautionary upper limit on catches. The quota sector of the industry comprises a few large companies and a number of small and medium-sized operators, who tend to be less well organised in terms of infrastructure and distributive networks, operating in the less capital-intensive sectors. Permits are granted to individuals or companies to catch unlimited quantities (using effort based regulations) of non-quota species using defined technologies. The structure of the industry reflects the inequalities³ of the past dispensation despite Government's focus on correct the imbalances of the past by promoting small and medium enterprises among previously disadvantaged individuals.

¹Hake Deep Sea Trawl 52, hake inshore trawl 17, hake handline 85, hake longline 139, small pelagics 114, large pelagics 43, WCRL nearshore 812, WCRL offshore 245, abalone 264, squid 121, tuna pole 152, netfish 281, traditional linefish 464 (other species include, oysters, seaweed, etc) (Feike, 2008)

² Until 2009, Fisheries fell under the Department of Environmental Affairs and Tourism, branch Marine and Coastal Management which in turn was established in 2000 (replacing the Department of Sea Fisheries that included the Sea Fisheries Research Institute).

³Ownership in South Africa's fishing sector is still concentrated in the hands of whites, while crew members are primarily black or coloured. Furthermore, the historical distinction made by the apartheid government between the coloured and black communities is still evident although not popularly recognized. Also, the majority of small businesses, particularly small processors, are unable to develop financially viable operations, due to their very small quotas.

Fishing rights in commercial sectors had been issued as annually renewable rights. In From 2002 to 2005 the rights were issued as medium-term rights for the duration of that period. From 2006 the rights had been issued as long term rights up to a maximum of fifteen years (2006 to 2020) (see table 1 below).

Table 1: Commercial Fishing Rights Allocated 1992-2020

Fishery	1992 Rights holders	2000 Rights holders	Medium Term 2002	Long Term 2006	Duration of Right	Vessels	Direct jobs
WCRL offshore	40	203	234	812	10 years	142	1,058
WCRL near shore			785	245	10 years	N/A	3,248
Abalone	5	47	273	264	10 years	N/A	792
South Coast Lobster	6	20	16	16	15 years	9	441
Pilchards and Anchovy	124	157	113	114	15 years	137	15,133
Hake deep-sea trawl	12	59	53	52	15 years	79	9,000
Hake inshore trawl	11	13	17	17	10 years	31	1,480
Hake long-line		195	141	139	15 years	80	1,495

Isaacs, 2011:71)

2.1.2 Main landing sites

Permit conditions for commercial fishing require that they land at designated harbours in order for the catch to be weighed, recorded and subtracted against a rights holder's quota. The main fish landing harbours for industrial fisheries such as deep sea hake and small pelagics are: Saldanha Bay, St. Helena Bay, Cape Town, Mossel Bay, Gansbaai and Port Elizabeth. The smaller fishing harbours include port Nolloth, Hondeklip Laaiapplek (mainly for rock lobster), Hout Bay, Kalk Bay, Hermanus and east London. Although these are manned mainly by fisheries inspectors, the harbours provide outlets to collection of information and advice when need be such as during distribution of application forms for rights.

2.2 Inland sub-sector

South Africa has over 700 public storage dams mainly belonging to the Department of Water and Affairs (DWA) that had been built for the for provision of water for domestic, industrial and irrigation purposes. In addition there are number of naturally occurring water bodies such as Lake Fundudzi in Limpopo. These represent over 50% of a total of about 1,500,000 hectares inland water surface (Hara and Ngwexana, 2011). Under DAFF's strategic plan for 2011 to 2030 (DAFF, 2010) the dams and impoundments present great potential and opportunity for the development and enhancement of a livelihoods based inland fishery. Such a sector could be an important source of protein especially for the food insecure rural communities. The colonial legacy is that most of these had been stocked with alien species to promote recreational fishing. Thus up until now, the main secondary uses of public dams have been recreational angling, tourism and water sports. This means also that the dams also provide opportunity for inclusion of communities in the recreational angling and tourism value chains. In addition, management of flora and fauna on and around public dams had historically been the responsibility of provincial departments of nature conservation which in most instances use provincial based legislation. Thus key to unlocking the potential for development of a livelihoods-based inland fishery and inclusion of communities in the recreational and tourism value chains is revision of property and access rights to public dams for rural communities and reforms to governance of the sector. While

the existing legislation could adequately provide for such revisions and inclusion in the short term, there will be need for development of enabling legislation (based on the imperatives outlined by the constitution and the over-arching National Environmental Management Act - NEMA) for facilitation of development of the sector. Also important is that DAFF; branch Fisheries as the lead agency will need to take a leadership role in the shift towards a developmental approach and cooperative governance of the sector (Hara and Ngwexana, 2011).

2.3 Recreational sub-sector

In terms of number of participants, the recreational fishing sector is the biggest with an estimated 750, 000 recreational anglers (<http://Sport and recreational fishing.pdf>). Recreational fishing ranges from shore angling (also known as 'rock-and-surf') which is the most accessible and thus the most popular; fishing from small boats in estuaries; offshore game sport fishing (using ski boats); fishing for rock lobsters and abalone; and spear fishing. Comprehensive management measures are used to regulate the sector: recreational fishing permits; minimum sizes; bag limit for all species; closed seasons for some species; and certain zones within MPAs prohibit recreational fishing thereby affording protection to breeding stocks of resident species. Although the total value of recreational fishing has not clearly been quantified, it is thought to be substantial especially if one adds the downstream industries such as bait and tackle, boat construction and maintenance, accommodation etc. Recreational fishing permits can be bought from the post office and DAFF produces information brochures on areas where this may be practiced, MPAs, and other permit conditions. In most instances, these are only in English and Afrikaans.

2.4 Aquaculture sub-sector

Aquaculture is the farming of aquatic organisms including fish, molluscs, crustaceans and aquatic plants. Farming implies some sort of intervention in the rearing process to enhance production, such as regular stocking, feeding, protection from predators, etc. Farming also implies individual or corporate ownership of the stock being cultivated.

Wild fisheries and aquaculture supplied the world with about 106 million tonnes of food fish in 2004. Of this total, aquaculture accounted for 43 percent. Thus the contribution of aquaculture to the world aquatic production in 2004 was approximately 45.5 million tonnes - excluding aquatic plants (FAO 2006). According to FAO projections (FAO, 2002) it is estimated that in order to maintain the current level of per capita consumption, global aquaculture production will have to reach 80 million tonnes by 2050. Globally, production from capture fisheries has levelled off and most of the main fishing areas have reached their maximum potential. Sustaining fish supplies from capture fisheries will therefore not be able to meet the growing global demand for aquatic food (FAO, 2004).

On a global scale fish farming is amongst the fastest growing farming sector, *growing at an average annual rate of over 8.8% per year since 1970*. By contrast capture fisheries and the terrestrial agriculture sector achieved an average annual growth of only 1.2% and 2.8%, respectively, for the same period. In 2005, aquaculture production reported to the FAO reached 63 million tonnes and was valued at US\$ 78.4 billion (FAO, 2007) with Asia accounting for 92% and 80% of global production and value, respectively. In 2005, South African production was 6 100 tonnes valued at US\$ 38 million.

The South African aquaculture sector remains relatively small and in keeping with global trends is largely based (52% of total production in 2006) on introduced species, highlighting their importance to aquaculture development.

The table below shows the comparison of selected Southern Hemisphere aquaculture producers. From the table it is clear that South Africa contributes less than 1 percent of global aquaculture production. In contrast, Chile, Brazil, Australia and New Zealand produce much greater volumes than South Africa.

The abalone sub-sector increased the most - 61%; from 515 metric tonnes in 2003 to 833 metric tonnes in 2006. Freshwater and marine species production, in 2003 and 2006 are listed in Table 2 (Introduced species shown in Italics).

Table 2: South African Production Data (Source: Shipton, T. and Britz, P.J. 2007, p. 6)

Species:	Production Data			
	2003		2006	
	Quantity (Tonnes)	Value (Million ZAR)	Quantity (Tonnes)	Value (Million ZAR)
Marine				
Abalone	515	134	833	178.3
Oysters	250	1.6	202	8.0
Mussels	900	5.1	542	4.7
Prawns	130	11.8	0	0
Finfish	10	0.4	0 ^f	0
Freshwater				
Trout	1300	-	1100	33.4 ^b
Tilapia ^c	160	-	50-80	0.75 – 1.2
African Catfish ^e	50	-	66	0.99
Common carp ^e	30	-	40	0.6
Mullet ^e	15	-	20	0.3
Largemouth Bass ^e	9	-	12	0.18
Marron crayfish ^d	8	-	30 - 40	5.5 – 7.4
Koi carp	77	-	1.4 mil fish	7.0
Aquarium species ^a	30	-	2.600 boxes	2.86
Totals	3485		3564	210

^aIncluding goldfish

^bAssuming a live price of R36.50 / Kg and a gutted price of R28 / kg (300 tons of live product sold)

^cSource: Chairman of the Western Cape Tilapia Growers Association (Mr G.Thomas)

^dSource: Mr Adian Piers, University of Stellenbosch

^eThere are no formal grower associations / inventories of producers. It is unlikely that there have been major increases in the production since 2003. Certainly, there have been no major commercial developments. Therefore, a conservative assessment of a 10% increase in production per annum has been used to estimate the 2006 production figures.

^fEspadon Marine (Pty) Ltd initiated production of Kob in 2006, however, volumes were very small and do not register on MCM inventories.

The abalone sub-sector increased the most - 61%; from 515 tonnes in 2003, to 833 tonnes in 2006. Output from the oyster, mussel and trout sub-sectors declined and the prawn sub-sector ceased production, primarily due to the strength of the rand combined with the low price of shrimp on the local and international markets.

2.5. Small-scale fisheries sector

2.5.1 Development of a small-scale fisheries policy for South Africa

In 2004, the Artisanal Fishers Association, Masifundise, and the Legal Resources Center, with the support from academics, launched a class action suit against the Minister of the Department of Environmental Affairs and Tourism (DEAT). This case, Kenneth George and Others vs. the Minister, used the Constitution and the Equality Act (2004) to litigate on the social and economic impacts of the reform process (allocation of fishing rights). This case was to be heard in the Equality Court. In April 2007, the claimants of Kenneth George and Others agreed to put the case on hold, provided that the

small-scale fisheries and subsistence policy would be reassessed with broader participation and input from various stakeholders (Isaacs, 2011).

A national task team representing fishing communities, NGOs, academics and government officials then spent three years 2007-2010 developing a new small-scale fishing policy. The local elite with fishing quotas and the established companies were not part of the drafting of the small-scale policy. They participated in the workshops on the draft small-scale policy held in May 2010, and their main concern was the rights allocation process (ITQ versus collective rights). Both favoured the ITQ system, with existing rights holders articulating their fear of the collective allocation and stating clearly that they wanted to remain individual rights holders on a small scale. They did not want to form part of any legal entities or community structures, preferring to remain individual rights holders even if interim rights holders had bought into the individual rights holders system (Isaacs, 2011).

A new small scale fisheries policy was gazetted (35455) on 20 June 2012 with a strong developmental focus and poverty alleviation. The challenge now is the implementation of the policy and developing strong community based organisations to co-manage inshore marine resources, to support fisher household livelihoods, food security, create local economic development and to benefit from the value chains.

The new small-scale policy is a paradigm shift from past top-down management approaches to community based approach and collective and multi-species allocation. However, the important role of extension and advisory services to support fishing communities with the development of small-scale fisheries is missing from the policy.

3. Fishing communities

South Africa has many coastal settlements that depend on the harvesting of marine resources for sale and for direct human consumption. These settlements can seldom be described as 'communities' in the sense of small, spatially defined geographic units with a homogenous social structure and shared norms. The planned establishment of coastal settlements was based on a common model, but 'physical, historical, economic, social and political factors have ensured continuing differentiation, posing different problems which will require distinctive approaches to change' (Lemon 1991:1). Van Sittert (2003) asserts that the concept of 'fishing community' is situated within the industrialisation of the fishing industry between the 1930s and 1960s. This is especially the case on the West Coast of South Africa. In South Africa, many company-established fishing towns have had difficulties in operating as a unit, although some common interests have been managed through democratic or representative organs.

The fisheries department has made some attempts to address coastal poverty through access rights since the early 1990s. The first attempt was made by the apartheid regime, in the form of community quotas and the establishment of fishing community trusts. This system failed primarily because it was a top-down initiative. Communities were not engaging actively in harvesting or in economic opportunities to reduce poverty; there was elite capture, and there was no support from the state in managing and distributing the funds that were generated. The second attempt was through the MLRA allocating quotas to individuals in coastal communities – here groups had to form small enterprises and companies to apply for fishing rights. The third attempt was in 2000, through the recommendations of the Subsistence Fisheries Task Group to establish fishing forums, but this system was dissolved within six months and fishers had to apply as individuals for medium-term rights allocation. The fourth attempt was through allocating interim rights to groups and individuals who were not incorporated into the medium-and long-term allocations but who were accommodated through interim relief measures.

4. Department of Agriculture, Forestry and Fisheries: branch Fisheries (DAFF: branch Fisheries)

The line agency for management in fisheries in the Department of Agriculture, Forestry and Fisheries: branch Fisheries. Below are the organisational and legal frameworks under which fisheries are managed.

4.1 DAFF: branch Fisheries organisational framework

The ultimate responsibility for all management decisions on fisheries rests with the Minister responsible for Department of Agriculture, Forestry and Fisheries (DAFF). Usually the Minister delegates responsibility for some decisions, such as the annual issuing of Total Allowable Catches (TACs) or the granting of “exemptions” for specialised projects, and other operational day to day decisions to the Deputy Director General (DDG) who heads the fisheries branch within DAFF (DEAT, 2005). Within DAFF: branch Fisheries. The fisheries branch is organised into five different directorates, namely (see figure 1):

1. Aquaculture and Economic Development
2. Monitoring Control and Surveillance
3. Marine resource management
4. Fisheries research and development

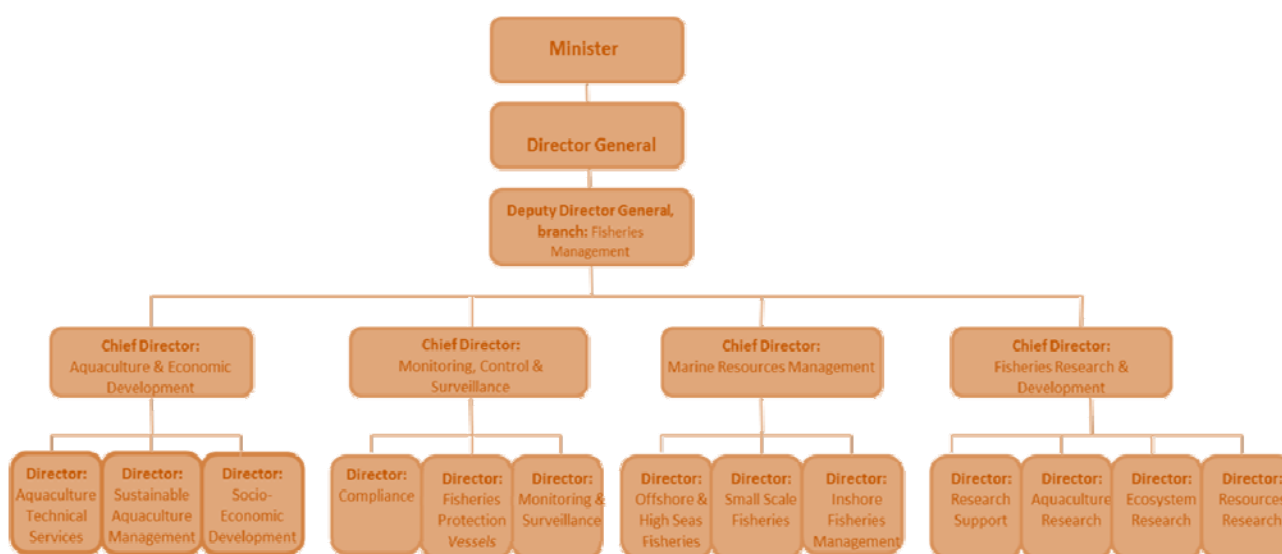


Figure 1: Organisational structure of DAFF: branch Fisheries

The Aquaculture and Economic Development Directorate is responsible for the management and development of both inland and Marine Aquaculture. The directorate is also supposed to house the extension services under the Aquaculture Technical Services sub-directorate (K. Morake, pers. Comm. 24/07/12. Cape Town). In reality though, the extension services are still yet to be developed. Monitoring, control and Surveillance directorate is responsible for inspectorate services. Compliance is enforced through a comprehensive monitoring, control and surveillance strategy that includes three modern newly acquired patrol vessels (SAS Sarah Baartman, SAS Ruth First and SAS Victoria Mxenge), vessel monitoring systems (VMS)⁴ and officers based at all the designated landing sites to check and record landings. The Marine Resource Management Directorate is responsible for decisions

⁴As part of the permit condition, all fishing vessels are supposed to be fitted with a Vessel Monitoring System that transmit information about the vessel's position to a central control room on the main land.

on recommendations on TAC recommended by scientific advice, facilitating decisions on quotas and other management issues. It does this mainly through management working groups established for each species sub-sector. Research and development directorate is responsible for scientific research (biological, oceanographic and ecological) and does the stock assessment that forms the basis for the issuing of annual TACs. The Antarctic Islands (Prince Edwards and Marion Islands) are managed as part of the Research directorate. Aquaculture Research sub-directorate also falls under this directorate.

4.2 DAFF: branch Fisheries Legal framework

Generally, South African fisheries are managed as a national competence except for KwaZulu Natal where responsibility has been delegated to the provincial government department, Ezemvero Wildlife. DAFF: branch Fisheries (based in Cape Town, Western Cape Province) is the regulatory authority responsible for managing all marine and coastal activities, and the issuing of rights to commercial, and small-scale fisheries. The branch was established through the 1998 revised fisheries Act, the Marine Living Resources Act (Act No 18 of 1998), which paved the way for establishment of the department for Marine and Coastal Management (MCM) in 2000 (then to DAFF: branch fisheries following the restructuring that resulted in fisheries being grouped together with Agriculture and Forestry after the 2009 general elections). The 1994 transition to democracy also resulted in the development of new fisheries policies for all commercial fishing sectors (resulting in firstly four-year 'medium-term' rights issued between 2002 to 2005 and from 2006 long-term rights of up to a maximum 15 years in some commercial sectors. Although these were issued as Individual Quotas (not transferable), transferability has been made possible, by specific application to the competent authority, under 2009 Rights Transfer Policy (DEAT, 2009). The principal legal and regulatory framework for governing fisheries comprises of section 24 of South Africa's Constitution (republic of South Africa 1996) and the Marine Living Resources Act (Act No. 18 of 1998) and the associated regulations and specific permit conditions). In this context, each commercial fishery sector has a clear policy that provides guidelines for the issuing of fishing rights in that sector, management plans (in some instances still being developed) and strategies and indicative frameworks for sectoral transformation. Management and transformation is required to balance between an environment in which large companies would continue to invest and so continue to provide and grow employment while at the same time small companies could be also thrive and develop. In addition to the MLRA, other Acts provide for additional marine legislative frameworks. Among others, these include, the National Environmental Management: Protected Areas Amendment Act No. 4 of 2004, the National Environmental Management: Biodiversity Act (No. 10 of 2004), the Maritime Zones Act (No. 15 of 1994), Sea Birds and Seals Protection Act (No. 46 of 1973), Sea Shore Act (No. 21 of 1935) and the Nature and Environmental Conservation Ordinance, (Ordinance 19 of 1974). South Africa is also signatory to management requirements for high seas fisheries and other environmental issues through the relevant and responsible Regional Fisheries Management Organisations such as the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Indian Ocean Tuna Commission (IOTC), which are responsible for the regulation of the exploitation of the highly migratory tuna stocks (longfin and yellowfin in particular). South Africa is also a full member of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) which regulates the exploitation of resources around that area as a result of ownership of the Prince Edward and Marion Islands in that sea. In particular, the exploitation of the Patagonian toothfish (*Dissostichus eleginoides*) is regulated under that arrangement.

Clustering artisanal fishers (informal fishers and recreational fishers on the West Coast and South Coast) with subsistence fishers (mainly found on the Eastern Cape and KwaZulu-Natal coasts), the MLRA proposed four mechanisms to address access rights and redistribution: empowerment schemes; room for community initiatives; creating new opportunities for new entrants to the industry; and better labour relations for fishers and processing workers. The new fisheries policy also proposed a system strongly influenced by Individual Transferable Quotas. Under the MLRA, Individual Transferable Quota (ITQ) fishing rights were allocated to individual small-scale fishers. However, while improved access rights under the fisheries reform were intended to alleviate poverty by making wealth generation activities possible, the result was that this new action space was quickly captured by the elite in the community (teachers, artisans, shop owners, local councillors) rather than those they were intended to benefit – the fishers in the community. Even those fishers with limited literacy and numeracy skills were unable to comply with the application requirements (Isaacs 2003; 2006). In addition, established

companies were encouraged to enter into equity ownership arrangements with black-owned companies, sell shares to employees, and enter into harvesting and processing joint ventures with small-scale enterprises. The policy favoured small and medium-size enterprises (SMMEs), provided they formed close corporations or private companies, rather than supporting the position of the artisanal and subsistence fisher (Isaacs, 2011).

5. Extension and advisory services

The fisheries sector currently lacks a formalised extension service. Legally and historically interaction between the lead agency and fishers has taken place or takes place through a number of avenues. For example, within the commercial fisheries sector the use of working groups is legally enshrined while attempts have been made (and plans are afoot) at formulating co-management arrangements within the small-scale fisheries sector. Other avenues through which advice is passed on include stakeholder associations, information workshops and road shows. There is also wide use of private companies for some of the department's functions and responsibilities such as data collection. The commercial rights holders used private scientists and legal services to protect their interests.

Market based bench marks also form part of ways of advising consumers about buying of species that have been caught and are being managed sustainably.

5.1 Working groups (scientific and management)

South African commercial fisheries have historical precedence of the commercial industry working closely with management authority (the former Sea Fisheries Authority) albeit as an exclusionary form of participatory management under apartheid (Huton et. al., 1999). The promulgation of the Marine Living Resources Act (MLRA) in 1998 (Act No. 18 of 1998) following democracy in 1994, resulted in a great number of new rights holders from the Historical Disadvantaged racial groups entering the industry (Hara and Raakjaer, 2009; Raakjaer Nielsen and Hara, 2006; Isaacs et. al., 2007;), throwing a spanner in the works of the historical arrangements.

The MLRA and the commercial fisheries policy (DEAT, 2005) requires the establishment of working groups for management of commercial fisheries. Thus each commercial fisheries sector has a Scientific Working Group (SWG) and a Resource Management Working Group (RMWG). The Working Groups are the formal governance structures for each sector where government scientists, representatives of stakeholder groups⁵ and NGOs⁶ sit to discuss scientific and management issues for recommendation to the Deputy Director General (head of the department) for final decision. Some of the key decisions that are taken in the SWG are concerning the TAC for the coming year and other scientific issues. The SWG is important for coming up with the key inputs into the Operational Management Procedures (OMPs). The RMWG is the body for discussing distribution of rights and operational management issues. Membership and representation on these working groups is limited. Rights holders (whether individuals or companies) are not allowed to become members and thus attend the working group meetings and deliberations as component rights holders. They have to belong to a stakeholder association which in turn selects a member (or members if more than one is allowed) to represent the association on the working group. In most instances, only one member of a stakeholder association is allowed on the scientific working group while more than one representative might be allowed on the resource management working group depending on the size of the association. This means therefore that those rights holders that do not belong to stakeholder associations are not represented on the working groups.

5.2 Stakeholders Associations

Most rights holders belong to stakeholders associations. Associations are supposed to be non-profit making organisations whose objectives are the promotion and protection of the interests of their

⁵For example, the South African Small Pelagics Fishing Industry Association (SAPFIA).

⁶For example, university-based researchers and scientists, those from organisations such as World Wildlife Fund (WWF), etc.

members. The 2007 Fishing Industry Handbook (George Warmer Publications, 2007) lists their functions as being:

- Representing members in negotiations with government or legislative or other administrative bodies;
- Consider, report, advise and make representation on existing or contemporary legislation or other such measures affecting the industry and their members;
- Collect and disseminate information likely to be of use to members;
- Co-operate with organisations of employers and/or employees or trade unions on any industrial council or conciliation board which may be established to deal with matters which affect members; and
- Assist members regarding administrative and technical matters concerning their membership and the Association.

The Fishing Industry handbook of 2007 lists fifteen associations. Some of these (for example the SA Fishing Industry Associations, SA Linefish Associations and The National SMME Fishing Forum) are umbrella associations within which other associations are affiliated or members. This does not mean that the separate associations cannot act on their own. For example, the SA Pelagic Fishing Industry Association, SA Pelagic Fish Processors Association, SA West Coast Rock Lobster Association, SA deep sea trawling Industry Association and the SA Inshore Fishing industry Association belong to the SA Fishing Industry Associations. Even then, they have their own representatives on the sectoral working groups rather than being represented by their umbrella Association. In most commercial fishing sectors, stakeholder associations precede the change to democracy in 1994 and are very powerful organisations.

Besides the industry associations, World Wildlife Fund, I&J, Sea Harvest, Oceana Group Limited, and Selecta (Viking Fisheries) established the Responsible Fisheries Alliance Forum for sharing of information, expertise and competencies to positively effect responsible fishing while influencing policy and fishery governance

Although DAFF: branch fisheries would want all rights holders' in commercial fisheries represented on these management fora so that their views and interests are expressly represented, South Africa's constitution gives citizens the 'right of association' and therefore their right not to belong to associations. Thus rights holders cannot be forced to belong to an association or group if they do not want to or do not see any benefit of doing so. For example 47 % of rights holders in small pelagics sector do not belonging to any association (Hara, forthcoming).

5.3 Private (consultancy based and Legal) services

Usually when it comes to their interests, the powerful stakeholder associations such as those belonging to the SA Fishing Industry Associations can fall back of expert opinion of independent scientists and/or legal services whose services they retain to contest issues and decisions that might be detrimental to their interests (Nyikahodzoi et al., 2010).

The use of private consultants is particularly prevalent during rights application process. There are a number of reasons why applicants might want to use the services of consultants. For example, it could be that this is cheaper than doing it alone especially if you do not live in Cape Town, applicants might find it less tedious than doing it alone, but in most instances a perception had been created that consultants know how to work the systems and therefore your chances of getting the rights are better if you use consultants. The last reason had been and remains particularly pertinent among new entrants, rural communities and illiterate applicants especially in the years soon after democracy to the extent that most had been used in applications while the consultants (who included people from an array of professionals such as lawyers, accounts, retired civil servants, etc) retained the acquired rights for themselves (Isaacs, 2003).

5.4 Outsourcing of services

In the commercial sector, the department (DAFF: branch Fisheries) has a system of putting observers on a number of randomly selected vessels to collect (mainly) biological data. This service is out-sourced to a private company.

In the small-scale and subsistence fisheries sectors all the maritime provinces, collection of biological data has been out-sourced to private companies. This was also the case in terms of formation of piloting of co-management elaborated below in section 5.8. The problem with this is that the department does not build its own capacity for such services. As a result, the services breakdown or are discontinued, especially if such services were funded as donor projects as was the case with the piloting of co-management, once the project comes to an end.

5.5 Information workshops, road shows, hotlines and email address

One way that the department provides information on new legislation or new policies, or in the case of performance reviews for long-term rights, is to conduct information sharing workshops and also road shows at which the new initiative or review is presented and stakeholders are given opportunity to give comments and inputs. This usually combined with establishment of 'hotlines' and 'email addresses' where stakeholders can phone in or write in to give comments and inputs.

5.6 Co-management and participatory management

An arrangement that is supposed to provide an avenue for provision of advice and information is co-management or participatory management.

Participatory management (or co-management) refers to an institutional and organizational arrangement between government and user groups for effective management of a defined fish resource (Hara, 2003; Hauck and Sowman, 2003; Sen and Raakjaer Nielsen; Jentoft, 1989). The general functions of co-management have been identified as; the encouragement of partnerships; provision of user incentives for sustainable use of resources; and the sharing of power and responsibility for management decision-making. Co-management is a compromise between government concerns for sustainable utilisation and conservation (as the custodian of public resources) on the one hand and users' demand for equal opportunities, self-determination and self-control. The co-management approach makes two assumptions; that users must have a stake in management and secondly, that partnership of government agencies and resource users is essential for positive management outcomes. Co-management goes beyond mere consultation in that the delegated institution, embodying user group interests, not only has a direct role in joint decision making but also has the authority to make and implement regulatory decisions in specified areas of responsibility (Jentoft and Mikalsen, 1994; Hersoug and Rånes, 1997).

While the Working Groups arrangement for commercial fisheries described in 5.1 above is a form of co-management, here we are particularly concerned with arrangements between government and small-scale fishing communities.

In the early millennium, DEAT: MCM commissioned and pilot programme for the introduction of co-management in small-scale and subsistence fisheries. One part of the programme was being implemented in the Western Cape collaboratively between the Environmental Evaluation Unit (EEU) based at the University of Cape Town and the Institute for Poverty, Land and Agrarian Studies (PLAAS) at the University of the Western Cape. Another was being piloted in KwaZulu Natal by Ezemvero Wildlife. Here we will only describe the efforts in the Western Cape and Eastern Cape. Co-management arrangements project was a pilot project for the introduction of co-management in the management of fisheries in South Africa⁷. The project ran from 2001 to 2008. The overall objectives of the project in the Western Cape were as follows:

⁷The project was funded by the Norwegian Government as part of the Norwegian-South Africa (NORSA) bi-lateral aid agreement to the fisheries sector. Professor Jesper Raakjaer from the Institute for Fisheries Management and Coastal Community Development (IFM), Denmark is the international collaborator on the project.

- The development, implementation and consolidation of functional co-management arrangements at established pilot sites, in the Western Cape and Eastern Cape, and the exploration and initiation of co-management arrangements at further pilot sites in the Eastern Cape and the Western Cape.
- The strengthening of institutional capacity amongst resource users and managers to operate within a co-operative style of management
- To provide ongoing facilitation and technical support to MCM in their efforts to ensure the long term sustainable management of subsistence and small-scale commercial fisheries resources
- To strengthen linkages and facilitate mutual learning with co-management researchers and practitioners at other national and international institutions doing similar work.

Co-management initiatives were launched at three sites (Swartkops, Oliphants River and Hondeklip Baai) in the first phase. The project was forced to withdraw from Hondeklip Baai by the client (DEAT: branch MCM) at the beginning of the second phase. In place, two sites (Knysna Estuary and Ndengane and Role communities in Mkambati) were selected for exploratory co-management arrangements. These initiatives never really took effect and as a result, most died down at the end of the project.

A number of lessons can be drawn from the pilot project for co-management arrangements in South Africa as listed below:

5.6.1 Lessons learnt

A number of lessons have been drawn with regard to the exploration, initiation and implementation of the pilot projects as follows:

- The co-management arrangements were established as part of the requirements in terms of the MLRA of 1998 which stipulate that co-management institutions must be established in order to involve and engage subsistence fishers in decision making. While the establishment of the local institutions had been accepted by many stakeholders, co-management arrangements need to be given significant decision making powers in order to allow the local stakeholders to influence decisions at the local strategic level. However this might not be enough if the user group stakeholders do not have the capacity for effective participation in the co-management. In this context, it is critical that a local driver, whose role should include the building of capacity of the stakeholders for understanding the principles and ethos of co-management, is identified and appointed to drive the arrangement.
- Communication amongst stakeholders to ensure the smooth running of the co-management arrangement is another key aspect. Thus a clear communication strategy is important in such arrangements. Apart from the co-management meetings and workshops, other avenues need to be devised to ensure that there is communication amongst stakeholders. Improved communication will ensure that all the stakeholders involved understand their functions, roles and level of engagement in the co-management arrangement.
- Co-management needs to encompass all activities and issues impacting the community other than just fish resources. Thus other Poverty Alleviation Projects in running in the area must have linkages and must be incorporated into the co-management initiative in terms of its broader objectives beyond fisheries management. This will ensure that all the issues, challenges and problems related to all community development initiatives are proactively addressed by all stakeholders including those concerned with the co-management.
- However good the intentions of co-management arrangement in terms of trying to legally extend fishing rights to communities that had been formerly marginalised, there will never be enough resources to issue all potential subsistence fishers with permits. It is crucial therefore that communities are involved in the formulation of the '*operational rules*' regarding the

selection of rights holders, transferability and sharing of such rights among the community members, structuring of the rights within families and also in 'process issues' of how to elect committees, who can get elected to the committee(s), replacement of committee members, etc. Without involvement at these two levels, by-in for co-management by communities will be very little and conflicts are likely to prevail.

- Management responsibilities for the various aspects of the coastal resources fall under a number of departments, ministries and agencies. When there is lack of coherence among and between such official agencies, it becomes confusing for communities as to who they should be dealing with and therefore who is their main partner in the co-management arrangement. This is particularly pertinent in the present case whereby DAFF: branch Fisheries cedes some of its powers to other agencies such as SANPARKS, while they (DAFF: branch Fisheries) continue to have jurisdiction over other functional areas of operations and regulations. Such lack of a coherent approach and common messages from the various agencies can act to derail co-management arrangements.
- Where a resource is used by multiple stakeholders, the question arises as to whether co-management should be built around the participation of all users rather than on fishers only. While it is important to have committees largely populated by 'vested interests' it is also important that other stakeholders are involved if such committees and their functions are to be seen as legitimate. In the Knysna case, other stakeholders appeared oblivious of the existence and functions of the subsistence fishing committee. Meanwhile other stakeholders, especially those in the tourist and hospitality industry, had formed their own committee for sounding out SANPARKS about the need to manage the estuary sustainably in order for continued attraction of tourists and therefore the protection of their interest. Their strong argument was that the tourism industry was the main income earner for the local community and therefore its main basis, the Knysna Estuary, must be protected. In this context, the activities of subsistence harvesters (the tramping and digging for bait) were usually seen as being detrimental to the estuary. The type of multi-stakeholder governance must therefore be inclusive enough to serve the interests of all key stakeholders.

DAFF: branch Fisheries had embarked on another drive of establishing co-management bodies along the coast especially in the Eastern Cape. These were mainly to organise subsistence fishers for such rights in specific identified areas until the small-scale fisheries policy is implemented. In total these committees were established in 63 communities (S. Sibiyi, pers. Comm. 27/07/2012. Cape Town). Unfortunately, these lack capacity to function on their own and also, the other problem is the lack of legal recognition for such bodies.

A more successful initiative was probably that in KwaZulu Natal by Ezemvero Wildlife. These are reputed to be well established, stable and functioning successfully. Nineteen committees had been established, that is seven for inter-tidal brown mussels and eleven for line fish (Harris, et. al., 2003). Even then a number of challenges are alluded to such as: stock limitations, mistrust between authorities and harvesters, gender dynamics, language problems, etc (ibid.).

On 23 & 24 July the fisheries department conducted a workshop for local fisher organisation representatives on the new interim relief permits for West Coast Rock Lobster and Linefish and piloting the implementation of local fisher co-management committees for small-scale fisheries. The fisheries department is concerned with the number of fisher organisations mushrooming and claiming to represent fishers since the release of the draft small-scale fisheries policy in September 2010. They want to facilitate the process of establishing local fisher co-management committees and plan to embark on roadshows from the first week of August 2012 in 36 fishing communities in the Northern and Western Cape provinces. These fisher co-management committees will be area based and each community will select representatives to sit on the fisher co-management board at district level, then two of each from the board will be represented at a provincial level and two representatives of each province will sit on the national co-management committee for small-scale fisheries. All tiers of government will be represented on the co-management committees.

5.7 Stakeholder Engagement and Outreach

Since 2010, a new directorate 'Stakeholder Engagement and Outreach' was formed and one of its initiatives included using ANC veterans to stop abalone poaching in the Breede river region. Recently (June 2012), the same directorate employed 19 extension and development workers in the Western Cape to provide advisory services to fishing communities. It is unclear what the job description of the extension workers is and how will they assist fishing communities.

5.8 Environmental and Market based benchmarks (certification and fair trade)

With 80% of world's fisheries either being fully or over exploited (FAO, 2012), environmental consumerism is a growing fad in developed countries. Through activists and international multi-lateral organisations such as the FAO, consumers are becoming increasingly aware and concerned about fishing activities that might be contributing to destruction of marine and fresh water fisheries. Buyers (retailers and wholesalers) are therefore being coerced to source fish and fish products that have been caught in an environmentally sustainable manner. The Marine Stewardship Council (MSC) certification initiatives (Ponte, 2008) are a clear reaction to these concerns. For South African fisheries, only the export based deep sea hake has been certified by the MSC. This was to enhance the export value of the product in Europe where consumers are becoming increasingly environmental conscious. The MCS certification process can be a very expensive and elaborate process (Ponte, 2008) to the extent that it could cripple a small sector. For example the certification of South Africa's hake cost around US \$ 100,000 (Crosoer et al., 2006).

Another initiative is the 'Sustainable Seafood Initiative' (SASSI) by the World Wildlife Fund – South Africa (WWF – SA). WWF – SASSI one of the leading domestic campaigners for certification of the various fish species in South Africa. The organisation initiated the 'Sustainable Seafood Initiative' (SASSI) in 2004, which provides consumers, wholesalers and restaurant owners with advice about responsible seafood choices, based on the status of the various marine fish species in South Africa. Thus increasing numbers of restaurants are signing up to this initiative by providing the status of the fish being offer on their menus. In this way, consumers can make informed decisions and choices about the fish that they eat based on the status of the species in terms of sustainability.

What is also observable is that increasingly, consumers in developed countries are demanding that the food that they buy has been produced in socially responsible ways and traded fairly (Vermeulen et. al, 2009) through 'fair trade' initiatives. More and more therefore, the marketing of produce from developing countries to developed countries is done under the labels of 'fair trade' or other ethical 'conscience-relieving' branding (Bargawi and Oya, 2009). The use of fair trade does not mean that the benefits are shared equally though. Usually, retail prices of such products are inflated while producer prices remain the same (Bargawi and Oya, 2009), meaning that so far it appears as if fair trade labels are mainly benefiting developed country buyers rather than developing country producers.

6 Conclusion

Until the advent of democratic change in 1994, only two fishing sectors were legally recognised – commercial (industrial) fisheries and recreational. Management approach was science-based, conventional and centralised. Government did the science, formulated management plans and regulations based on the science and enforced the regulations. The limited number of participants enabled a successful exclusionary type of consultative co-management between industry and government. The entry of increased numbers of rights holders after 1994 ended the cosy relationship between industry and government. This has highlighted the lack of an extension and advisory service within fisheries government line agencies (DAFF and DEAT and SFA before then) as found in most fisheries in other countries. Even then, interaction between industry and government still takes place mainly through management and scientific working groups, adhoc services such as road shows and workshops and market and consumer based coercive initiatives. The establishment of the Small-scale fisheries sector and proposal for an inland fisheries sector, both of which have the basis for a developmental approach in order for fisheries to contribute towards food security and poverty

alleviation, would call for a hands-on approach to the provision of advice and extension services to these sectors in particular over and above co-management.

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Appendix

Summary tables of fisheries and fisheries related economic data - South Africa

Geographic and fisheries economic data

Length of coastline	3 623 km
Water area (EEZ) ⁸	1 071 883 km ²
Shelf area ⁹	275 000 km ²
GDP at purchaser's value (2008)	USD 782.7 billion ¹⁰
Agricultural GDP (2008)	USD 7.4 billion
Fisheries GDP (2008)	USD 322.5 million

Fisheries data (2007)¹¹

	Production	Imports	Exports	Total Supply	Per Caput Supply(Kg/yr)
	(tonnes live weight kg/year)				
Fish for direct human consumption	396 660	121 959	144 005	374 614	7.6
Fish for animal feed and other purposes	276 700	41 800	123 400	195 100	

Estimated Employment (2008)

Primary sector (including aquaculture)	16 853
Secondary sector	10 876

Trade (2008)¹²

Value of fisheries imports	USD 233 842 390
Value of fisheries exports	USD 537 912 911

⁸South African National Spatial Biodiversity Assessment 2004: Technical Report. Volume 4: Marine Component. South African National Biodiversity Institute

⁹Council for Geoscience

¹⁰Based on indicative exchange rate for December 2009, US\$=Rand 7.5

¹¹Based on best available source – Fishing Industry Handbook, 2007 & 2008.

¹²<http://www.trademap.org>