

Strengthening the Human Dimension of an Ecosystem Approach to Fisheries Management in the BCC Region

FINAL REPORT of FAO-BCC Project EAF 09/12



Three countries sharing a productive ecosystem





STRENGTHENING THE HUMAN DIMENSION OF AN ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT IN THE BCC REGION

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ABBREVIATIONS

BCC:	Benguela Current Commission	MLRA:	Marine Living Resources Act, 18 of 1998 (South Africa)
BCLME:	Benguela Current Living Marine Ecosystem	MPA:	Marine Protected Area
DAFF:	Department of Agriculture, Forestry and Fisheries (South Africa)	NABCOA:	Namibia Business Coalition on AIDS
DEAT:	Department of Environmental Affairs and Tourism (South Africa)	NAMFI:	Namibian Maritime and Fisheries Institute
EAF:	Ecosystem Approach to Fisheries	NEEEF:	New Equitable Economic Empowerment Framework (Namibia)
EEZ:	Exclusive Economic Zone	NGO:	Non-governmental organisation
EPA:	Economic Partnership Agreements	NQA:	Namibia Qualifications Authority
EPL:	Exclusive Prospecting License	NSI:	Namibian Standards Institution
ERA:	Environmental Risk Assessment	NTA:	Namibia Training Authority
FAO:	Food and Agriculture Organization of the United Nations	RDP:	Reconstruction and Development Programme
FOA:	Fisheries Observer Agency (Namibia)	SAP-IMP:	Strategic Action Programme – Implementation Project
GEAR:	Growth Employment and Redistribution	SFTG:	Subsistence Fisheries Task Group
IDP:	Integrated Development Plan	TAC:	Total Allowable Catch
IPA:	Institute for Artisanal Fisheries (Angola)	UCT:	University of Cape Town, South Africa
IRP:	Interim Relief Permit	UWC:	University of the Western Cape, South Africa
ISC:	Industry Skills Committee	WCRL:	West Coast Rock Lobster
MDT:	Masifundise Development Trust		
MFMR:	Ministry of Fisheries and Marine Resources (Namibia)		

EXECUTIVE SUMMARY

Barbara Paterson

This report summarises the key findings from the BCC/FAO Project on strengthening the human dimension of an Ecosystem Approach to Fisheries Management in the BCC Region and puts forward recommendations on the collection and incorporation of such information into management decisions.

The description of current data on human dimensions is summarized for South Africa (Table 1-1), Namibia (Table 1-2) and Angola (Table 1-3). A key conclusion of the baseline reports for all three countries is that available data on human dimensions are fragmented and insufficient. Notwithstanding the richness of the data available in places for some human dimensions, this information has, for the most part, not been collated or systematically analysed, and is not easily available to resource managers.

A population census has not been held in Angola since the 1970s. Some socio-economic data on fishing communities and cooperatives are collected by the Institute for Artisanal Fisheries (IPA), but this information is neither systematically stored nor curated. In South Africa, the last socio economic survey of small scale fishing communities was conducted in 2000 and since then there has been no comprehensive data-collection system. National census data are similarly outdated. During the course of 2011 however, as a direct result of this BCC project, a data management system was set up.

In accordance with Namibia's focus on large-scale fisheries, data collection by the Ministry of Fisheries and Marine Resources (MFMR) has centred on the companies that provide socio-economic data. However, these data are not comprehensive, and more importantly, are not easily accessible. In addition, some social and economic data have been collected through the national census, the municipalities of Walvis Bay and Lüderitz, and NGOs. However, the available data are on a large temporal and spatial scale, and the census data are outdated. Consequently, an analysis of the human dimensions of fisheries in Namibia has largely been limited to macroeconomics and rights allocations. Equally, attempts at participatory management and stakeholder consultation have been limited to include rights holders and representatives of fishing companies. The perspectives, roles and socio-economic conditions of the people involved in the catching, processing and selling of fish have not been included.

In both South Africa and Namibia, national censuses were held in 2011. These recent census data provide an opportunity for updating existing social and economic

information at the national level. Although these data are not disaggregated for a particular fishing community, they still provide some indication of poverty levels, health status and so on at the level of the town or ward, and thus are of some use for decision-making purposes.

Research in all three countries has focused on governance issues, but there has been no analysis of the relationship between governance objectives, rights allocation, and management outcomes. Equally, there is little analysis of power relations and how these play out on a local scale. Furthermore, there is a dearth of data on the flow of benefits from fishing and no analysis of the distribution of risks and benefits. There are very little data on the role of women in the sector and on the interactive impact of gender, race and class. There is a need to improve understanding of fishing culture and its relation to other human dimensions.

Fishing activities are deeply embedded in the socio-cultural milieu. Any management intervention thus requires an understanding of the cultural context in which fishing and post-harvest activities take place, and how this context might shape interactions between stakeholders and role players. In addition to the general lack of information on human dimensions of artisanal fisheries, the conflicts between the artisanal and industrial fishing sectors have been highlighted as an important issue for which very little data are available. In Namibia the industrial fishing sector is almost entirely comprised of migrant workers, yet no analysis exists of the relationship between the fisheries sector and rural-urban migration. In South Africa access to resources and livelihoods are key issues for small-scale fishers, and yet there are very little data on these dimensions.

SOUTH AFRICA

Although there is considerable information available on some human dimensions, the lack of socio-economic and institutional data is prominent. The available socio-economic data is outdated and limited to a segment of the small-scale fisheries sector. Census data provide a useful overview but there are mismatches between the scale at which these data are gathered and the management scale (Ommer, 2007). Census data are gathered only every 10 years, a timescale that is completely disconnected from fisheries management timescales, which are seasonal and/or annual scales. Moreover, the data are not available at the scale of individual fishing communities and thus cannot provide any meaningful feedback on the effect

of management on the socio-economic conditions in the fishery. Information contained in the Integrated Development Plans is usually based on the most recent census data and thus subject to the same mismatch of scale.

Although specific government departments can provide more updated information on selected human dimensions availability, scale and quality of the information is not consistent across the different departments. In-depth information on some human dimensions is available in the form of academic and NGO documents for specific geographic areas or coastal communities. These case studies enhance understanding and can contribute to improved management decisions; however, it is difficult to draw generalisations from these context specific studies. There is thus a need for meta-analysis of existing case studies as well as development of case study research specifically focussed on enhancing human dimension information for EAF management of small-scale fisheries. The development of a socio-economic information and management system for small-scale fisheries will help to develop data series in support of management objectives.

NAMIBIA

There is a wealth of data on the economic dimension of the Namibian fisheries sector. However, as is often the case for large-scale fisheries the corporate nature of the enterprises obscures the need for research into human dimensions other than economics, such as the political, social and cultural dimensions, which in Namibia have been largely ignored. Thus, data on these dimensions is almost non-existent. The available data is patchy, held by different institutions, scattered across various different organisations and not easily accessible. As a consequence human dimensions information, including data on the business aspects of the fishery, have until now not been incorporated into the everyday operation of fisheries management. The report highlights the need for more focused research on the human dimensions of Namibia's fisheries and the development of a strategically placed information resource on all the key elements of the human dimension to fisheries management. Such an information management system will promote the development of data series that support management objectives. Further, it would allow the ongoing evaluation of management objectives from the perspective of the wider social, political and cultural context of Namibia's fisheries.

ANGOLA

In Angola, the Institute for Artisanal Fisheries (IPA) has come a long way in initiating and conducting data collection in the seven provinces. Data on fish catches is routinely collected during surveys that also collect some socio-economic data on communities organised as co-operatives. IPA representatives in the provinces gather additional socio-economic information.

However, this data is not systematically captured, documented or analysed. Although catch and effort data and socio economic data are stored at IPA, only catch and effort data are analysed for the internal report to the Minister of Agriculture, Rural Development and Fisheries. Although small-scale fisheries are a key focus of Angola's effort to reduce poverty in the country, there seems very little co-operation between IPA, Instituto Nacional de Investigação Pesqueira (INIP) and other government and NGO sectors in pursuing this objective. One possible avenue to address these issues would be for IPA to develop a socio-economic information and management system, similar to the one developed in South Africa.

CONCLUSION

All three reports highlight the need for a dedicated socio-economic information management system. Work to develop such a system has already begun in Namibia through a collaboration between the Department of Agriculture Forestry and Fisheries and UCT's Evaluation Unit. This should be a priority consideration for the BCC, who should take the lead in the development of these databases.

Based on the information that was collected through the three baseline studies, and more importantly based on the data gaps identified through this work, the project working group has put forward a list of recommendations (see section 6, below). These recommendations state that the relevant fisheries agencies need to take responsibility for the collection and analysis of data on the human dimensions of an EAF in the region at appropriate scales. In order to improve the relevant capacity and skills in the region it is further recommended that the BCC, together with relevant research institutions, develop a Master thesis series and bursary programme, which would contribute towards an alliance of universities and research institutions in the region. Moreover, towards the same goal of increasing local capacity and expertise, the training module "Scale, time and knowledge mismatches in the large marine social-ecological fisheries system of the Benguela Current" (developed in 2010 by the BCC in collaboration with researchers from UCT, UWC, University of Victoria and Vancouver Island University), should be continued and formalised into a regular training module. This would further respond to the urgent need to

enhance research efforts on selected human dimensions as well as research collaborations between local, regional and international research institutions. This would in turn foster and enable the critical analysis of the social, economic, cultural and political dimensions. The BCC has already entered into a partnership with Canadian researchers to enhance understanding of social-ecological research in the BCC region. This collaboration should be further expanded and formalised.

There is an urgent need to develop a BCC research agenda

on human dimensions. This would be greatly supported by the establishment of a regional social-ecological think tank that could develop into a permanent working group in the longer term. This group would assist and guide the BCC inter alia with the development of social-ecological indicators; the inventory and co-ordination of research projects; provide guidance on research ethics for social-ecological research; facilitate debate around what it means to incorporate human dimensions into fisheries management; and provide general guidance for research and data collection.

TABLE 1-1. Currently available data on human dimensions of EAF in South Africa

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
INSTITUTIONAL DIMENSIONS				
Policies and legal framework	Marine Living Resources Act (1998); Commercial Fisheries Policy (2005); Sector Policies (2005); Small Scale Fisheries Policy (forthcoming)		Type: Documentary Scale: National	Government gazettes and websites, academic documents, Masifundise reports/pamphlets
Access and use rights	Marine Living Resources Act (1998); Commercial Fisheries Policy (2005); Sector Policies (2005); Small Scale Fisheries Policy (forthcoming)	- Subsistence rights not yet allocated only exemptions - Limited commercial rights allocated to over 500 fishers - Interim relief permits granted to approx. 1,000 traditional fishers 2011 - Small-scale fishers claim not catered for	Type: Documentary Scale: National	Government gazettes and websites, academic documents, Masifundise reports/pamphlets
Participation	Little up to date data on participation Academic and NGO reports on policy consultation process (cf Sowman et al 2011) and EAF implementation process; Fisheries Department working group minutes	- Participation required by law but limited in practice - Increased opportunities for participation in recent SSFs policy process - Some participation in resource working groups - No/limited participation of local fishers in management decisions	Scale: Fishing community level*	Government records, NGO reports/pamphlets, academic documents. WWW report series Note: not covering all fishing communities
Community institutions	NGO Reports/Pamphlets and academic articles on the implementation of co-management mechanisms		Type: Documentary Scale: Fishing community level*	NGO reports and academic documents
Policy interactions and Institutional linkages	Academic papers on tensions between development programme (RDP) macro-economic policy (GEAR) and National Environmental Management Act (NEMA) and papers & reports discussing issues round integration socio-economics into management decisions		Type: Documentary Scale: National, provincial, fishing community level*	Academic documents, government and NGO reports
Enforcement and compliance	Little published data; some academic documents and data on transgressions		Type: Documentary, quantitative Scale: Individual level	Several data sets exist in custody of government law enforcement agencies such as DAFF, DEA, SANPARKS, South African Police Services

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
SOCIAL DIMENSIONS				
Gender	Census data and statistics data disaggregated since 2002; no data on women's role in the sector	- no analysis of intersection of class, race and gender; - no analysis of roles of women and their work in the sector; - no data on women rights holders and IRP holders; - the impact of processing plant closures on women and household relations not analysed	Type: Documentary, quantitative Scale: National, provincial, fishing community level*	Census 2001, government rights registers, academic documents, NGO reports
Social cohesion	Information and on and analyses of social dynamics in fishing communities is available for a small number of communities only	- lack of case studies on social dynamics in fishing communities - little analysis of impacts of sector specific management interventions	Type: Qualitative, documentary Scale: Fishing community level*	Academic documents & NGO reports (not covering all fishing communities)
Religion	Very limited information	How do values, beliefs and perceptions influence people's relation to marine resources and shape their responses to management interventions?	Type: Qualitative, some statistics Scale: National, provincial, local municipality, settlement level*	Academic documents, theses, census 2001
Values, beliefs perceptions and attitudes	Very limited information	Lack of data	Type: Qualitative Scale: Fishing community level*	Academic documents, theses, NGO reports community pamphlets
Livelihoods, practices, options, strategies	Very little data besides outdated SFTG report and individual community level reports	Lack of data	Type: Qualitative, quantitative, documentary Scale: Fishing community level*	Academic documents, NGO reports
Health	Lack of baseline quantitative information; patchy information from research activities; some census data; health statistics not disaggregated at fishing community level; no analyses of the relation between fisher's livelihoods, access to resources and their health	Baseline quantitative data analyses of the relation between fisher's livelihoods, access to resources and their health	Type: Quantitative, documentary; Scale: National, provincial and local municipal	Integrated Development Plans (IDPs), Census 2001, government departments, academic documents/theses
Education	Lack of baseline quantitative information; some statistics, coastal town education data not representative of fishing communities/ households	Lack of baseline quantitative information on education; info is available at ward and municipal level but not disaggregated for fisher communities	Type: Quantitative, Documentary; Scale: National, provincial and local municipal and town/settlement level	Integrated Development Plans (IDPs), Census 2001, government departments, academic documents/theses
Food security	Limited data available; some updated statistics	Limited data on food security	Type: Quantitative, qualitative	Academic documents, NGO reports*
Rights and duties	Legislative and policy framework well documented in literature; failure of the framework and fishers' protests are well documented in grey literature incl. SFTG report; governance issues around rights' allocation process and relationship between allocation and management outcomes not yet analysed; data bases on rights holders and allocations		Type: Documentary, qualitative and some quantitative Scale: Regional, local and town/settlement level	Legal documents, NGO reports, community pamphlets, academic documents*
ECONOMIC DIMENSIONS				
Poverty	Case studies are documented in academic documents and NGO reports; outdated census data in terms of access to basic services; outdated local level data		Type: Quantitative, qualitative Scale: National, provincial, ward level for coastal towns, fishing community level*	2001 Census, academic documents, NGO reports, IDPs

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
Employment (income level, quality of employment)	2001 census data; case studies; SFTG report (2000)		Type: Quantitative Scale: National, provincial, town/settlement, fishing community level*	2001 Census, academic documents, NGO reports, IDPs
Alternative economic opportunities	Case study data		Type: Qualitative Scale: National, provincial, local municipal, fishing community level*	Academic documents, government departments, IDPs
Trade and markets (post-harvest)	Limited information; no market study has been undertaken for the sector	Limited information; no market study has been undertaken for the sector	Type: Documentary Scale: National and fishing community level*	National policies, acts and legislations, academic documents
Distribution of benefits/risks	No data on or analyses of distribution of benefits and risks; one case study	No data on or analyses of distribution of benefits and risks; one case study	Type: Qualitative; quantitative Scale: Fishing community level*	Academic documents
Access to credit	No studies or data exist for fishing communities although importance being discussed in policy reviews	No studies or data exist for fishing communities although importance being discussed in policy reviews	Type: Documentary, qualitative Scale: Fishing community level*	Academic documents
Cost of production	No data (part of distribution of risks and benefits)			
Flow of benefits	No data (part of distribution of risks and benefits)			
CULTURAL DIMENSIONS				
Local knowledge	Student research; academic papers; UCT fisher knowledge project; further research needed to integrate fisher knowledge into management	Further research needed to integrate fisher knowledge into management	Type: Documentary, qualitative Scale: National; fishing community level*	Academic documents; constitution of South Africa
Customary fishing practices and institutions	Student research, academic papers; need to improve understanding of fishing culture and it's relation to other human dimensions	Need to improve understanding of fishing culture and it's relation to other human dimensions	Type: Documentary, qualitative Scale: National, fishing community level*	Academic documents; constitution of South Africa
POLITICAL DIMENSIONS				
Power structures (objectives and goals of different stakeholder groups)	Limited research on power relations at local scale despite importance of the issue and frequent highlighting in literature	Need to critically analyse power relations and historical shaping of underlying structures	Type: Documentary, qualitative Scale: Fishing community level*	NGO reports, community pamphlets, academic documents
Policies Shaping distribution of costs and benefits (equity)	Only limited research confined to specific coastal case sites	Policy interactions and how they shape distribution of cost and benefits	Type: qualitative Scale: National; local community level*	NGO pamphlets, academic documents, ERA and ERA review reports
Transparency of the decision making process and accountability of decision makers	General lack of detailed information about small-scale fishing: what are decisions based on? Lack of understanding of relationship between industrial and small scale fishing sectors; lack of clearly defined lines of accountability		Type: Documentary; qualitative Scale: National	Academic documents, ERA and ERA review reports

* Note: Academic documents and NGO reports do not cover all fishing communities.

TABLE 1-2. Currently available data on human dimensions of EAF in Namibia

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
CULTURAL DIMENSIONS				
Policies and legal framework	Fisheries White Paper (1991); Marine Resources Act (2000); Marine Resources Policy (2004); Aquaculture Policy (2001); Aquaculture Act (2002); Aquaculture Regulations (2003); Policy Review documents		Type: Documentary Scale: National	Government gazettes and websites; academic documents, BCC reports and website
Access and use rights	Fisheries White Paper (1991); Marine Resources Act (2000); Marine Resources Policy (2004); Policy Review documents	Process of rights allocation and criteria set not well documented	Type: Documentary Scale: National	Government gazettes and websites; academic documents, BCC reports and website
Participation	Little up to date data on participation; academic and NGO reports on EAF implementation process; Fisheries Department working group minutes	Data not collated	Type: Documentary Scale: National, sector specific	Government records, NGO reports/pamphlets, academic documents. WWW report series
Community institutions	Information on Community institutions is scattered and largely not available through the usual fisheries related information channels; requires stakeholder analysis and mapping as well as scoping	Data not collated	Type: Documentary Scale: Regional and Municipality/ Town council level	Unpublished reports; personal communications
Policy interactions	No data available; scoping required	No data available; scoping required	N/A	N/A
Institutional linkages	Rudimentary data available in ERA reports and ERA review reports scoping required	Limited data only	Scale: National	ERA reports and ERA review reports
Enforcement and compliance	Little published data; observer reports; court records	Data not collated	Type: Documentary; possibly some statistics on transgressions Scale: National; possibly sector specific	Held by government law enforcement agencies
SOCIAL DIMENSIONS				
Gender and age	Data disaggregated; MFMR employment verification report; no research data on intersection of class, race and gender, little data on roles of women and their work in the sector, data gaps regarding number of women rights holders and IRP holders; little understanding of impact of processing plant closures on women and household relations	No research data on intersection of class, race and gender, little data on roles of women and their work in the sector, data gaps regarding number of women rights holders and IRP holders; little understanding of impact of processing plant closures on women and household relations	Type: Quantitative, documentary Scale: National, provincial, Municipality, company level	Census 2001, Municipality databases, government rights registers, government & NGO reports, company registers
Social cohesion	Only anecdotal information on social dynamics in fishing communities is available; There is no systematic analysis and very little understanding of social dynamics and of impacts of sector specific management interventions	There is no systematic analysis and very little understanding of social dynamics and of impacts of sector specific management interventions		N/A
Religion	Very limited information, no understanding of how fishers religious beliefs shape their interaction with the sea	No understanding of how fishers religious beliefs shape their interaction with the sea	Type: Qualitative, quantitative Scale: National, provincial, local municipality	census 2001

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
Values, beliefs, perceptions and attitudes	Very little information			
Livelihoods, practices, options, strategies	No research /data on livelihood strategies and practices; no analyses of relationship between fisheries sector and rural-urban migration	No analyses of relationship between fisheries sector and livelihood strategies in coastal townships; rural-urban migration	N/A	N/A
Health	Lack of baseline quantitative information; patchy information from public health initiatives; individual company statistics; some census data; health statistics not disaggregated at fishing community/household level and thus not sector representative; no analyses of the relation between fisher's livelihoods, access to resources and their health	Lack of baseline health data on appropriate scale: health statistics not disaggregated at fishing community/household level and thus not sector representative; no analyses of the relation between fisher's livelihoods, access to resources and their health;	Type: Qualitative, Quantitative; Scale: National, regional, municipal, fishing company level	Government records, 2001 census data; company statistics, IDPs
Education	Lack of baseline quantitative information, some statistics, coastal town education data not representative of fishing communities/ households	Lack of baseline quantitative information, some statistics, coastal town education data not representative of fishing communities/ households	Type: Quantitative Scale: National, provincial and local municipal	Government records, 2001 census, IDPs
Food security	National and regional data, not representative for fisheries sector; role of fisheries sector for national food security not sufficiently analysed; no analysis of relation between employment in fisheries sector and food security in rural areas; limited data from Namibian fish consumption trust	National and regional data, not representative for fisheries sector; role of fisheries sector for national food security not sufficiently analysed; no analysis of relation between employment in fisheries sector and food security in rural areas; limited data from Namibian fish consumption trust	Type: Quantitative Scale: National, provincial and local municipal	2001 census, fish consumption trust records, IDPs, academic documents
Rights and duties of fishers	Legislative and policy framework well documented in literature; data bases on rights holders and allocations; governance issues around rights allocation process and relationship between allocation and management outcomes not yet analysed	Governance issues around rights allocation process and relationship between allocation and management outcomes not yet analysed	Type: Documentary Scale: National	Academic documents, government reports, government records.
Namibianisation	Policy documents; government records on company registration and ownership; company employment records	Flow of benefits not clearly understood; no clear indicators	Type: Documentary; some statistics Scale: National, fishing company level	Government policy documents, academic documents, government records, company records

ECONOMIC DIMENSIONS

Poverty	Limited census data in terms of access to services; data not disaggregated to reflect fishing households, thus not sector representative	Data not disaggregated to reflect fishing households, thus not sector representative	Type: Quantitative Scale: National, regional and local municipal	2001 census, IDPs
Employment (income level, quality of employment)	Limited data; no analysis of quality of employment;	No analysis of quality of employment	Type: Quantitative Scale: National; fishing sector level	Government records, Company statistics
Alternative economic opportunities	No data or analyses	No data or analyses; on Alternative economic opportunities		

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
Trade and markets (post-harvest)	Data and market analyses available for some sectors; additional research needed on value adding and secondary fish processing opportunities		Type: Quantitative, Qualitative; Scale: National and fishing sector level	Government and consultant reports, company reports
Distribution of benefits/risks	Economic data on value of landings and prices ; contribution of sector to GDP; no analyses of benefits and risks on sector and company level; no analyses of benefits and risks level of fishers and fish workers	No analyses of benefits and risks on sector and company level; no analyses of benefits and risks level of fishers and fish workers	Type: Quantitative Scale: National and fishing sector level	Government records and documents, consultant reports
Access to credit	Limited data available			
Cost of production	Data on key factors, e.g. fuel prices; company level data; need to assess industry vulnerability to external factors	Need to assess industry vulnerability to external factors	Type: Quantitative Scale: Global, national, sector and company level	Global economic data
Flow of benefits	No data/research on flow of benefits within the country and out of the country (part of distribution of benefits and risks); overview and analysis of support industries and services and current and potential SMEs needed	No data/research on flow of benefits within the country and out of the country (part of distribution of benefits and risks); overview and analysis of support industries and services and current and potential SMEs needed		
CULTURAL DIMENSIONS				
Local knowledge	Draper (2011) MSC thesis; academic documents; UCT fisher knowledge project; further research needed to integrate fisher knowledge into management	Further research needed to integrate fisher knowledge into management	Type: Documentary, qualitative Scale: National, fishing sector level**	Academic documents
Customary fishing practices & institutions	Draper (2011) MSC thesis; Very little data/research; need to improve understanding of fishing culture and it's relation to other human dimensions	Very little data/research; need to improve understanding of fishing culture and it's relation to other human dimensions	Type: Qualitative; mostly anecdotal Scale: Fishing sector level**	Academic documents
POLITICAL DIMENSIONS				
Power structures (objectives and goals of different stakeholder groups)	Lack of research on power relations; Need to critically analyse power relations and historical shaping of underlying structures	Lack of research on power relations; Need to critically analyse power relations and historical shaping of underlying structures		
Policies Shaping distribution of costs and benefits (equity)	Need to critically analyse Policy interactions	Need to critically analyse Policy interactions shaping flow of benefits		ERA and ERA review reports
Transparency of the decision making process and accountability of decision makers	General lack of detailed information about fish workers, quality of employment and household level economics: what are decisions based on? Lack of understanding of relationship between rights allocations, quota allocations and socio-economics on the household level; lack of clearly defined lines of accountability	General lack of detailed information about fish workers, quality of employment and household level economics: what are decisions based on? Lack of understanding of relationship between rights allocations, quota allocations and socio-economics on the household level; lack of clearly defined lines of accountability	Type: Documentary; qualitative Scale: National, fishing sector specific **	Academic documents, Policy documents, Government records, ERA and ERA review reports

** Note: information does not cover all fishing sectors

TABLE 1-3. Currently available data on human dimensions of EAF in Angola

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
INSTITUTIONAL DIMENSIONS				
Policies and legal framework	Fisheries Law (1992); Law of Aquatic Biological Resources (2004); Fisheries Sector Development Project Progress Report (2006)		Type: Documentary Scale: National	Government gazettes, Academic documents
Access and use rights	Fisheries Law (1992); Law of Aquatic Biological Resources (2004); Fisheries Sector Development Project Progress Report (2006)		Type: Documentary Scale: National	Government gazettes, Academic documents
Participation	No data available		Type: Documentary Scale: National	Project reports
Community institutions	Data on fishing co-operatives is collected by IPA, irregular updates		Type: Documentary & quantitative Scale: National & community specific	IPA documents
Policy interactions	No data available; scoping required	No data available; on Policy interactions	N/A	N/A
Institutional linkages	No data available; scoping required	No data available on Institutional linkages	N/A	N/A
Enforcement and compliance	No data available	No data available on compliance	N/A	N/A
SOCIAL DIMENSIONS				
Gender	Some isolated data sets collected but not yet analysed by IPA; no research on the role of women in post-harvest activities and impact of management actions on women and household relations	No research on the role of women in post-harvest activities and impact of management actions on women and household relations	Scale: Level of the co-operative?	Government (IPA) records
Social cohesion	No data available	No data available Social cohesion	N/A	N/A
Religion	No data available	No data available religion	N/A	N/A
Values, beliefs, perceptions and attitudes	No data available	No data available values & beliefs	N/A	N/A
Livelihoods, practices, options, strategies	Lack of baseline data; limited information in grey literature, incl. BCLME reports	Lack of baseline data; livelihoods	Type: qualitative Scale: National	NGO reports, academic documents
Health	Lack of baseline quantitative information; IPA records are not analysed; health statistics not disaggregated at fishing community/co-operative level; no analyses of the relation between fisher's livelihoods, access to resources and their health	Lack of baseline quantitative information; IPA records are not analysed; health statistics not disaggregated at fishing community/co-operative level; no analyses of the relation between fisher's livelihoods, access to resources and their health	Type: Qualitative; quantitative Scale: National; Co-operative level	NGO reports and academic documents
Education	Lack of baseline quantitative information, some data collected by IPA but not analysed	Lack of baseline quantitative information, some data collected by IPA but not analysed; education	Type: Qualitative, quantitative Scale: National,	NGO reports and academic documents

DIMENSION	EXISTING DATA	INFORMATION GAPS	TYPE & SCALE OF AVAILABLE DATA	AVAILABILITY
Food security	Limited data available; some updated statistics		Type: Quantitative, qualitative	Academic documents, NGO reports
Rights/duties of fishers	No data	No data	No data	No data
ECONOMIC DIMENSIONS				
Poverty	Limited outdated data on access to services from past BCLME research; limited data collected by IPA but not analysed; policies to address poverty	Limited outdated data on access to services from past BCLME research; limited data collected by IPA but not analysed	Type: Quantitative, qualitative, documentary Scale: National, fishing community level, co-operative level	Research reports, Government records and reports, policy documents
Employment (income level, quality of employment)	Limited/outdated data from past BCLME research; limited data collected by IPA but not analysed; policies to address poverty	Limited/outdated data from past BCLME research; limited data collected by IPA but not analysed	Type: Quantitative, qualitative, documentary Scale: National, fishing community level, co-operative level	Research reports, Government records and reports, policy documents
Alternative economic opportunities	Little data available	Little data on Alternative economic opportunities		
Trade and markets (post-harvest)	Limited data available from past BCLME research; some data collected by IPA but not analysed	Limited data available from past BCLME research; some data collected by IPA but not analysed on Trade and markets	Type: Quantitative, qualitative Scale: National, fishing community level, co-operative level	Research reports, Government records and reports, policy documents
Distribution of benefits/risks	No data/research	No data on Limited data available from past BCLME research; some data collected by IPA but not analysed		
Access to credit	Limited data available for some co-operatives		Type: Quantitative, documentary Scale: National, Regional, Co-operative level	Policy documents, IPA reports and records
Cost of production	Limited data collected by IPA		Type: quantitative Scale: Co-operative level	Government records
Flow of benefits	Not analysed, no data			
CULTURAL DIMENSIONS				
Local knowledge	BCLME reports on artisanal fisheries	Very little information available; further research needed to integrate fisher knowledge into management	Type: Qualitative Scale: National, fishing community level*	Academic documents, grey literature
Customary fishing practices and institutions	Very little information; BCLME reports on artisanal fisheries; need to improve understanding of fishing culture in relation to other human dimensions	Very little information; BCLME reports on artisanal fisheries; need to improve understanding of fishing culture in relation to other human dimensions	Type: Qualitative Scale: Very little information available	Academic documents, grey literature
POLITICAL DIMENSIONS				
Power structures (objectives and goals of different stakeholder groups)	Need to critically analyse power relations and historical shaping of underlying structures	Need to critically analyse power relations and historical shaping of underlying structures		
Policies Shaping distribution of costs and benefits (equity)	Need to critically analyse Policy interactions	Need to critically analyse Policy interactions		
Transparency and accountability	Lack of information on relationship between conflicting sectors		Type: Anecdotal, documentary, Scale: National, local community level	BCLME reports, INIP/IPA workshop reports

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STRENGTHENING THE HUMAN DIMENSION OF AN ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT IN THE BCC REGION

1 INTRODUCTION

Barbara Paterson, Merle Sowman, Serge Raemaekers, David Russell, Luyeye Nkosi, Kelsey Draper, Nico Willemse

This report summarises the key findings from the BCC/FAO project on strengthening the human dimension of an Ecosystem Approach to Fisheries management (EAF) in the BCC Region and puts forward recommendations on the collection and incorporation of such information into management decision-making. The aim of the report is to provide guidance to the BCC for further research that will enhance understanding of the human dimensions of EAF and facilitate integration of such information into

management and decision-making in the region. The foundations of this report are the baseline reports prepared for small-scale fisheries in South Africa (Sowman, et al., 2011), industrial fisheries in Namibia (Russell, 2011b), and artisanal fisheries in Angola (Luyeye, 2011b). The report also draws on a recent overview of the state of knowledge of the human dimensions in small-scale fisheries in the BCC region as reported in Sowman, Cardoso, Fielding et al. (2011).

2 BACKGROUND

The concepts and principles underpinning an Ecosystems Approach to Fisheries (EAF) have been evolving since the early 1990s. Although EAF is defined in very broad human-ecological terms, earlier documents on EAF give little explanation of what the human dimensions actually entail. More recently, there have been publications that focus specifically on these aspects. The FAO (2010) produced a technical paper as well as technical guidelines on the “Human Dimensions of the ecosystem approach to fisheries”. However, in reality government officials, managers and researchers are grappling with implementing EAF, particularly with the question of how to incorporate the human dimensions (Paterson and Petersen, 2010).

The countries of the BCC region – South Africa, Namibia and Angola – are committed to implementing an EAF, and the BCC is determined to mainstream activities that will contribute to a better understanding of the social, economic, cultural, political and institutional factors that affect fisheries’ management. Towards this aim, the BCC together with the EAF Nansen project launched a project in 2011 on “Strengthening the Human Dimension of EAF in fisheries management in the BCC”, which has been implemented by the Namibia Nature Foundation.

Through consultation with key experts and stakeholders, the project has developed a framework for identifying human dimensions¹ (Table 4, Paterson, 2011), which was used to structure stakeholder workshops in Walvis Bay (Russell, 2011a), Luanda (Luyeye, 2011a) and Cape Town (EEU, 2011). The recommendations from these workshops helped to clarify the focus of country baseline reports for particular fishing sectors in each of the BCC countries: small-scale fisheries in South Africa (Sowman, et al., 2011), industrial fisheries in Namibia (Russell, 2011b) and artisanal fisheries in Angola (Luyeye, 2011b). These baseline reports provide an overview of the information that is currently available on human dimensions of EAF using the framework (Table 2-1), and highlight research and data gaps. A key result of the baseline reports for all three countries is that available data on human dimensions are fragmented and insufficient. This report is a compilation of the three baseline reports. A description of current available data on human dimensions is summarized for South Africa, Namibia and Angola.

¹ It should be noted that there are other human dimensions which have been identified in other documents and guidelines, and in this regard the framework should be seen as a guide for this project and not necessarily as a comprehensive list of human dimensions.

TABLE 2-1. Framework for human dimensions in the BCC region

INSTITUTIONAL	SOCIAL	ECONOMIC	CULTURAL	POLITICAL
• policies/legal framework • access/use right • participation (fishers, fish workers) • community institutions • policy interactions • Institutional linkages (e.g. other ministries, universities, ngos) • enforcement & compliance • social research • capacity building	• gender, age • social cohesion • religion • values, beliefs, perceptions, attitudes • goals and aspirations • livelihoods, practices, options, strategies • health • education • food security • rights/duties of fishers • namibianisation	• poverty • employment (income level, quality of employment) • alternative economic opportunities • trade and markets (post-harvest) • distribution of benefits/risks • access to credit • cost of production • flow of benefits	• cultural • local knowledge • customary fishing practices & institutions	• power structures (objectives and goals of different stakeholder groups) • policies shaping distribution of costs & benefits (equity) • political stability of the country • transparency of the decision making process • accountability of decision makers

3 BASELINE REPORT: SOUTH AFRICA

Merle Sowman, Serge Raemaekers, Jackie Sunde, Natalie Schell and Oliver Schultz

3.1 INTRODUCTION

This baseline report aims to contribute towards an improved understanding of the human dimensions of small-scale fisheries in the Benguela Current Living Marine Ecosystem (BCLME) region of South Africa. Information for this report relies heavily on information contained in the South African component of the 'Human dimensions of small-scale fisheries in the BCLME region: An overview', BCC-FAO regional report (Sowman et al., 2011a), as well as a recent review of available socio-economic (non-fisheries dependent) information relevant to small-scale fisheries communities in South Africa (Sowman et al., 2011b). The purpose of the latter review was to identify and review other sources of information, for example government websites, the Census 2001 data, and planning documents such as the Integrated Development Plans (IDPs), in order to identify the nature and availability of data for enhancing understanding of the small-scale fisheries sector.

This baseline report is not exhaustive, and does not include existing socio-economic data on, for example, small-scale rights holders and permit holders collected by the Department of Agriculture, Forestry and Fisheries (DAFF), as these data have not yet been analysed and synthesised. Furthermore, it should be noted that small-scale fisheries have a history of marginalisation in South Africa, which directly affects the level of information that is available on this sector. For example, there is limited up-to-date national data on the total number of small-scale fishers; the number and types of boats and equipment used; the contribution of this sector to the GDP; levels of dependence on marine resource use for food security and livelihoods; the role of women and children in the sector; the cultural value of small-scale fisheries, and the political dimensions of these fishery systems. Although information is available on some of these issues, this has been obtained primarily from independent research, undertaken by research institutions and post-graduate students on specific socio-economic or Institutional Dimensions of a particular small-scale fishery system or coastal community.

As a result, there is no overall understanding of the human dimensions of the small-scale fisheries sector in the BCLME region of South Africa, but "pockets" of information on selected human dimensions in particular localities are available and certain trends can be identified. In this baseline report, the state of knowledge on a suite of human dimensions is provided, as well as information

on the availability of data and the scale at which it exists. Moreover, it provides a comprehensive bibliography of all available grey and published literature considered relevant to human dimensions of small-scale fisheries in South Africa.

3.2 OVERVIEW OF THE SMALL-SCALE FISHERY SECTOR

All along the South African coastline, men, women and children living in coastal communities have historically harvested a range of marine resources for their basic subsistence and livelihoods (Clark et al., 2002; Parkington et al., 1998; van Sittert, 1993). Signs of this can be seen in fish traps, middens, archival records and through the vestiges of customary practices that remain (Kemp et al., 2009). Marine resources have been harvested for consumption, for local livelihoods, for medicinal purposes, and as part of cultural and spiritual practices (Masifundise, 2009). Today, aside from the small-scale fisheries recognised within the commercial sector, a host of other small-scale fisheries characterised by the use of low-intensity gear and the targeting of multiple species that support local economies and food security exist (Raemaekers, 2009). Few data exist for these fisheries. Recently, an attempt was made to identify all small-scale fisheries that are encompassed in the draft small-scale fisheries policy (MSC, 2010). The list of these fisheries for the BCLME region (defined by species, species group, geographical location and gear usage) is presented in Table 3-1. Many of these fisheries are informal, operate under the regulations for recreational fisheries, or have only certain components recognised by the fisheries authority. They are in essence considered 'illegal' by the state (Hauck, 2009).

The neglect by state management authorities of the small-scale fishing sector in South Africa in favour of industrial fisheries is most visible in the lack of reliable, current information on these fishing communities. Consistent with the lack of data pertaining to the small-scale fisheries sector, no precise figures exist on the number of small-scale fishers in the country. In 2000, it was estimated that there were approximately 30,000 fishers with approximately 28,000 households dependent on subsistence fisheries (Clark et al., 2002), but this is likely to be an under-estimate (Masifundise, 2010). In 2010, deliberations held by national task team members during the small-scale fishing policy drafting process, estimated closer to 100,000 people directly involved in

small-scale fishing activities (Raemaekers, 2010). No data exist on how many small-scale fishers reside along the South African BCLME coastline; however, close to thirty geographically distinct fishing communities exist, varying in size from small villages to larger towns. In addition, many more fisher groups operate from within urbanised areas such as the Cape Town Metropole. Figure 3-1 shows the distribution of fishing communities along the west and south-western coasts.

Small-scale fishing along the west and southwest coasts has a distinctly commercial aspect, and to varying degrees, those who are engaged in fishing have an ongoing association with the commercial industry (van Sittert, 2003). In spite of this commercial element, and the diversity of practices and target species ranging across different regions from the west to the south coasts, small-scale fishing in the South African section of the BCLME can be defined in broad terms. First, small-scale fishing is predominantly boat-based. Secondly, the gear employed has inherent restrictions because of its small-scale and low technological sophistication. “Bakkies” are small wooden boats between three and five metres in length, operated either by oar or by a single five to ten horsepower outboard engine. They are mostly used on the west coast. “Chukkies” are slightly larger versions of “bakkies”, usually five to eight metres, and use small horsepower outboard engines. Both kinds of vessels are highly restricted in terms of how far they can travel out to sea, so fishers using them are geographically bound. Ski-boats are ten to twenty metre open-decked wood and fibreglass vessels that became

popular in the 1970s. This popularity is primarily due to their manoeuvrability - they can be towed behind a car and launched from a beach. They are also able to carry powerful engines that allow them to travel long distances at high speed.

In addition, small-scale fishing is conducted close to shore; boats are launched in local waters, and the duration of trips is restricted to one day. The nature of the gear used also means that it does not require a large outlay of capital. The fishing activities are labour-intensive. Men usually (but not always) do the harvesting, while women are responsible for pre- and post-harvest activities. It is also important to note that many fishers move between the large and small-scale sectors, making it difficult to characterise certain small-scale fishers. It is often the case that the same individual has worked as a crew member on trawlers, on commercial line-fish ski-boats, and on traditional bakkies or chukkies using either an interim relief or limited commercial permit when at home. It is often impossible to disentangle the threads that link one individual to a range of fishing activities that span across the large and small-scale sectors. Their participation in these different forms of fishing is configured around a myriad of factors relating to: the time of year, weather conditions, the availability of sites on a ski-boat when a particular species of line-fish are ‘running’, the availability of sites on industrial vessels, the abundance or lack thereof of locally-targeted species, or the loss of formal fishing rights (Raemaekers, 2010; Witte, 2010).

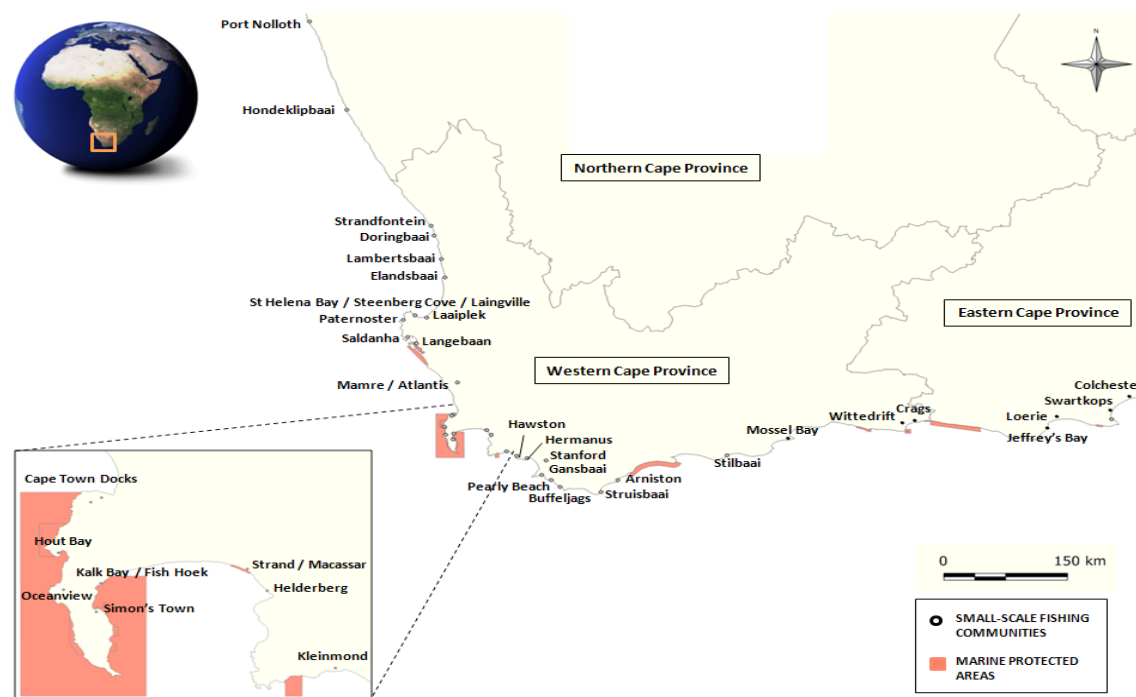


FIGURE 3-1. Small-scale fishing communities and fisher groups

(As identified by the fisheries authority, MDT, and the Artisanal Fishers' Association of South Africa). Fisher communities east of Stilbaai are not geographically distinct, but consist of small-scale fisher groups who harvest estuarine and marine species using low-tech gear and by shore-based fishing only. Marine Protected Areas (MPAs) are also indicated.

TABLE 3-1. Small-scale fisheries identified in the BCLME region of South Africa (adapted from EEU, 2010)

TARGET SPECIES OR SPECIES GROUP	FISHERY NAME/SECTOR	PROVINCE(S)	REGION OR HABITAT	GEAR/VESSEL
Abalone	Commercial abalone	WC	Cape Peninsula to Overstrand	Boat-based hookah diving
Bait (sand prawns, mud prawns, worms, mussels, clams, redbait, other inverts)	Informal/ recreational	All		Hand pumps, digging
Cape rock oyster	Commercial wild oyster	WC	Southern Cape, Still Bay to Plettenberg Bay	Wetsuits, snorkelling, crow-bar, on-foot access
East coast sole	Commercial Inshore hake/ sole trawl	WC/EC	MOHSSel Bay to Port Elizabeth	Small side/beam trawlers (small vessels only)
Harders/mullet	Small nets	NC/WC	West Coast	Estuarine gillnetting/ drift net, Beach seine net
Intertidal algae (<i>Gelidium pristoides</i>)	Commercial algae	EC	Rocky shores off Cape St Francis	Hand collected
Kelp (<i>Ecklonia maxima</i>)	Commercial algae	WC	West Coast to Overstrand	Harvested and collected
Line fish (hottentot, steentjie, panga, carpenter, small bottom species)	Recreational/IRP, not necessarily part of Traditional Line-fishery (TLF) sector	NC/WC	Smaller coastal communities	Non-power or low hp boat, hand line, rod and reel
Line fish (hottentot, steentjie, panga, carpenter, small bottom species)	TLF	NC/WC	West Coast to Overstrand	Ski-boat, chukkie, hand line, rod and reel
Line fish (multi species)	Recreational/informal	All	Shore-based, estuaries	Hand line, Cast net, rod and reel
Line fish (nomadic pelagic species: snoek, yellowtail, small tunas)	TLF	WC	West Coast to Gordons Bay	Ski-boat, hand line
Line fish (reef species)	TLF, "redfish" and seabreams	WC	Southern Cape – Knysna and Plettenberg Bay	Handlin and small ski-boats
Line fish (stumpnoses, kobs, white steenbras, grunters)	Recreational/informal	All	All estuaries	Gillnets/set nets
Line fish (white stumpnose, kob)	Small nets	NC/WC	West Coast	Beach seine net
Line fish (yellowtail)	TLF, treknet	WC	False Bay	Beach seine net
Mediterranean ('blue') mussels (<i>Mytilus galloprovincialis</i>)	Recreational/informal	WC	West Coast	Hand-picked
Octopus	Experimental	WC	False Bay	Pots long line
Rocky shore invertebrates (except rock lobster)	Informal	All	Rural	Hand-picked, shore-based, panga, knife, screw-driver
Sand crabs	Experimental	WC	False Bay	Bait and hand collection
Sandy-shore invertebrates	Informal	WC, NC	Rural	Hand-picked with tools
Tuna (yellowfin and longfin)	Commercial Tuna-pole	WC	Southwestern Cape	Medium ski-boats, "Madeira" type poles
West coast rock lobster	Inshore WCRL rights holders/IRP	NC/WC	West Coast (e.g. Doringbaai, Paternoster, Kommetjie)	Small boat (ski or rowing) with hoop-net
West coast rock lobster	Recreational/informal	NC/WC	Cape Peninsula to Overstrand	Snorkelling, paddle ski's and hoop nets, poles from shore
Whelks (<i>Bulia</i> spp.)	Experimental	WC	False Bay	Hand-collected from sandy beaches
White mussel (as bait)	Informal	NC/WC	West Coast	Spades/hand

NC – Northern Cape;
WC – Western Cape;
EC – Eastern Cape;
TLF – Traditional Line fishery;
WCRL – West Coast Rock Lobster;
IRP – Interim Relief Permit

Information collected during this review process is discussed using the Framework for Human Dimensions (Table 2-1), developed during the Walvis Bay BCC Workshop held on April 18-19, 2011.

3.3 INSTITUTIONAL DIMENSIONS

3.3.1 POLICIES/LEGAL FRAMEWORK

Following the democratic elections of 1994, South Africa embarked on a radical legal and policy reform process in all sectors of society (Glazewski, 2000). South Africa's new Constitution of 1996, which introduced a human rights based dispensation as outlined by the Bill of Rights (Witbooi, 2006), provided the framework for this process. The Constitution emphasises the link between environmental rights and human rights, promoting sustainable development and the use of natural resources, at the same time as promoting justifiable economic and social development (Witbooi, 2006).

The socio-political context in South Africa following the demise of Apartheid was one of raised expectations with hope of a new South Africa that would redress past injustices and promote substantive equality (Isaacs, 2006). The promise of the new government was clear: "the primary objective of fisheries policy is the upliftment of impoverished coastal communities through improved access to marine resources and the sustainable management of those resources through appropriate strategies" (African National Congress, 1994:104). This placed the fisheries authority (the Department of Environmental Affairs and Tourism: DAFF) in a position where it would not only need to deal with the sustainable management of marine resources, which had been their sole task up to that point, but also to address issues of poverty and underdevelopment by means of extending the potential benefits of marine resources to previously disadvantaged communities.

Since 1998, South Africa's marine fish resources have been regulated and managed in terms of the Marine Living Resources Act, 18 of 1998 (MLRA). The MLRA recognises three distinct categories of fishing, namely the recreational, commercial and subsistence sectors, and it prohibits the harvesting of any marine fish without a fishing permit. The legal recognition of subsistence fishers by this legislation was an expression of commitment to address the needs of this previously marginalised sector (Isaacs, 2006; Sowman, 2006).

The MLRA defines subsistence fishers as those people who "regularly harvest marine resources as a source of food or to sell them to meet the basic needs of food security" (Republic of South Africa, Act 18 of 1998). In practice, this meant that one would qualify as a subsistence fisher only when harvesting low-value resources such

as mussels and line-fish (Raemaekers, 2009). Section 19 of the MLRA also made provision for the creation of a 'subsistence fishing area' with exclusive access to identified fishers. However, this provision has not been implemented anywhere along the coast.

Under the auspices of the MLRA, a general commercial fisheries policy was released in 2005, complemented by 21 commercial fishery sector policies for the allocation and management of long-term commercial fishing rights. Between 2004 and 2006, the Minister of Environmental Affairs and Tourism allocated approximately 3,000 long-term commercial fishing rights to companies and individuals, across 21 commercial fisheries. The fishing rights allocated are valid for varying periods of between two and fifteen years.

The commercial fishery sector is estimated to provide direct employment to 27,000 people and indirectly to another 81,000 (Fishing Industry Handbook, 2010). The commercial fisheries include both large-scale and a smaller near-shore limited commercial fisheries sector, which could also be categorised as small-scale fisheries as per the draft small-scale policy. The commercial policies emphasize resource sustainability and promotion of access to new entrants from previously disadvantaged groups in order to further the transformation of the commercial fishing sector. They did not address the special needs of the small-scale sector in terms of development and support (Hauck, 2009; Raemaekers, 2009), and nor did they facilitate the entry of these fishers into the commercial sector. The relatively limited number of rights allocated to this class of fishers resulted in the exclusion of many traditional fishers. The Equality Court recognised this in 2007, and ordered the Minister to provide an interim measure that would enable approximately 1,000 fishers to access marine resources. About 1,400 small-scale fishers in the Western and Northern Cape have subsequently received annual 'Interim Relief Permits' (IRPs) to undertake fishing of certain line-fish species, west coast rock lobster and white mussel. In 2010, this was extended to a small group of net fishers. The IRPs are issued to individuals identified by the fishing community, and fishing is done on the basis of a daily bag limit or controlled effort. The IRPs will be issued annually until the new small-scale fisheries policy is implemented.

While the regulatory systems for small-scale fisheries are currently fragmented, it is envisaged that the forthcoming small-scale fisheries policy will develop integrated governance arrangements for all South Africa's inshore small-scale fisheries. This may require amendments to the MLRA as well as a revision of the relevant commercial fishery sector policies. Furthermore, it is envisaged that the new small-scale fisheries policy will address the pre-harvest, harvest and post-harvest activities that shape the use of marine resources within the near shore marine

ecosystem in South Africa. Specific elements of the draft small-scale policy worth mentioning include the adoption of a community-orientated approach to allocation of rights; the harvesting of a “basket of resources” rather than allocation of one species, and the participation of local resource users in management and decision-making. As such, the policy requires an implementation

programme whereby local fisher groups and fishing communities are actively involved in decision-making, drafting of management plans, local monitoring of catches and analysis thereof in the light of adapting local harvesting pressure or finding supplementary livelihood opportunities.

TABLE 3-2. Description of policies and legal framework information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Access & Use Policies & Legal Framework	Government gazettes and websites, academic documents, Masifundise reports/pamphlets	National	Special Edition: Marine Policy. 2006. (30)1.

3.3.2 ACCESS/USE RIGHT

In 2000, the Subsistence Fisheries Task Group (SFTG, 2000) appointed by the Department of Environmental Affairs and Tourism recommended that specific attention should also be paid to small-scale commercial fishers who are not subsistence fishers but whose needs differ from those of industrial-scale fisheries. The SFTG recommended that small-scale commercial fishers be distinguished by their history; by their hands-on fishing approach (the owner of the permit is involved in the day-to-day running of the enterprise), and labour-intensive small- to medium-sized operations (Harris et al., 2002b).

Subsistence rights were never allocated, however; instead, annual exemptions to the MLRA were issued in several communities along the coast. In the BCLME region, these were rapidly replaced by limited commercial exemption permits, in an attempt by Government to include the small-scale sector, which did not necessarily ‘fit’ in the commercial or subsistence sectors. In 2002, the first limited commercial rights were allocated for a period of three years (referred to as the medium-term rights allocation), including for resources such as abalone, rock lobster and line-fish harvested by near shore small-scale fishers. Isaacs et al., (2005) however, have argued that many bona fide fishers did not obtain formal access to resources. Whilst a significant number of historically disadvantaged individuals gained access to the fishing industry, the reality was that many of these were local elites who had the money, knowledge and/or political connections to benefit (Isaacs, 2006; Sowman, 2006). Many of the traditional fishers, on the other hand, remain overlooked and marginalised (Isaacs, 2006; van Sittert et al., 2006).

After intense lobbying by fishers and NGOs over the last 10 years, the state has recently recognised the inability of the MLRA to deal adequately with fisheries that do not fall neatly within the categories of subsistence, recreational or commercial fishing. Following legal action by a group of fishers from the Western Cape, and an order of the

Equality Court instructing the Minister to develop a new policy that accommodates the rights of traditional fishers, a process of developing a policy specifically for small-scale fisheries was initiated in 2007. In September 2010, a ‘Draft Policy for the Small-scale Fisheries Sector’ was gazetted for public comment (Department of Agriculture, Forestry and Fisheries (DAFF), 2010). The draft policy defines small-scale fisheries as:

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

(DAFF, 2010:7).

Two key principles underpinning this draft policy are to

- (1) recognise, protect and promote the rights of small-scale fishers in line with national and international instruments, and
- (2) recognise the State’s duty to redistribute control and access of the resource in order to redress the injustices of the past.

TABLE 3-3. Description of access and use rights information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Access & Use Rights	Government gazettes and websites, academic documents, NGO reports/ pamphlets	National	DAFF (2010), Draft Policy for the Small-Scale Fisheries Sector in South Africa – 2010, Gazette 33530.

3.3.3 PARTICIPATION

Participation is a key human dimension of fisheries that plays a critical role in shaping the outcomes of many other dimensions, and hence information on the level and effectiveness of participation is instructive for any planning and decision-making process. The National Environmental Management Act (NEMA) Section 2 provides guidance on the requirement that citizens be enabled to participate in decision-making. Interpretation of what constitutes ‘full and effective’ participation in fisheries varies, and to date there has been relatively little research documenting the extent to which small scale fishing communities do participate in various aspects of the fishery. Co-management is regarded as a vehicle for participation and has been promoted throughout the BCC region with varying degrees of success (Hauck and Sowman, 2003) and there are several focused studies of co-management in specific fishing communities in the region (Hauck and Sowman, 2003; Harris et al., 2007). There is, however, very little up-to-date data on participation. Nonetheless, academic and NGO reports on the policy consultation process and the report on the

submission of comments on the new draft small-scale policy provide some indication of the nature of participation in the policy development process. More recently fishers have begun participating in species-specific working groups; an ‘Interim Relief co-management’ committee has been established, and the minutes of these meetings will provide further indication of the depth and breadth of participation of fishers and other stakeholders.

Subsistence fisher involvement in formal co-management structures in the province of KwaZulu-Natal, South Africa, is an example of government consulting with local resource users regarding the management of local resources (Harris et al., 2007). However, research findings from interaction with fishers in coastal communities over the past five to ten years suggest that coastal small-scale fishers are generally not appropriately and sufficiently involved in fisheries management decisions in South Africa (Hauck and Sowman, 2003; Isaacs, 2003; Cardoso et al., 2005; Faasen, 2006; Sowman et al., 2008; Sunde and Isaacs, 2008; van Zyl, 2008; Hauck, 2009; Raemaekers, 2009; Schultz, 2010; Sowman et al., 2011a).

TABLE 3-4. Description of participation information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Participation	Fisheries Department working group minutes, Government records, NGO reports/ pamphlets, academic documents Note: Academic documents & NGO reports do not cover all fishing communities	Fishing Community	Sowman, Hauck and Branch (2003). Lessons Learned from Nine Coastal and Fisheries Co-management Case Studies, in Hauck, M and Sowman, M.(eds.).2003. <i>Waves of Change: Coastal and Fisheries Co-management in South Africa</i> , Cape Town: University of Cape Town Press.

3.3.4 COMMUNITY INSTITUTIONS

A key component of governance arrangements relates to the local institutions for managing access to and use of fisheries resources, and in particular the various organisations that represent community and civil society stakeholder interests. Governance of fisheries was shifted from the provinces to the State in the 1930s, and there has been little devolution of power since then. More recently however, influenced by international approaches to governance, the fisheries authority has professed a commitment to adopting a ‘co-management’ approach to fisheries and this principle was included in the General Policy for the Allocation of Fishing Rights in 2005 (DEAT, 2005). However, there has been considerable criticism of the way in which this approach has been implemented

(Sowman et al., 2008).

With respect to the management of most commercial species, the fisheries authority chairs a series of working groups with representatives from key sectors including non-state actors such as the fishers and industry. In addition, in the West Coast Rock Lobster sector, the fisheries authority has engaged the services of the West Coast Rock Lobster industry to assist with the ‘co-management’ of the resource. This is managed through the election of zonal representatives who are then represented on the working group by the West Coast Rock Lobster industry.

Although reference is made to ‘co-management’ agreements with various communities vis-à-vis management of marine resources within MPAs, these arrangements

remain predominately state-driven and there are no examples of co-management of marine resources where the community remains the leading partner (Sunde and Isaacs, 2008; Sowman et al., 2010). The impact of this state-driven, top-down management approach has been the erosion of local level customary institutions and management processes (Masifundise, 2010). More recently, government has facilitated the establishment of a co-management committee for the interim relief fishery.

This committee comprises of representatives from a wide range of stakeholders involved in the interim relief, and it is anticipated that the minutes of these meetings will provide key insights into the human dimension dynamics amongst these user groups and communities. To date though, this data has not been analysed.

TABLE 3-5. Description of community institutions information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Community Institutions	NGO reports/pamphlets Note: NGO reports do not cover all fishing communities.	Fishing Community Level	Trane, A. 2010. Baseline Report: Consolidating Democratic Practices in Small-Scale Fishing Communities., Africa Contact: Denmark; VisserNet Newsletter, online at: http://masifundise.org.za/?page_id=211

3.3.5 POLICY INTERACTIONS AND INSTITUTIONAL LINKAGES

The two institutional issues – ‘Policy interactions’ and ‘Institutional linkages’ – have been combined under this sub-heading. The governance framework for fisheries within the BCLME region is established by the Constitution of South Africa (1996) and the Marine Living Resources Act (1998) as well as a range of international, national and regional laws and soft policy pertaining to the management of fisheries resources. These instruments set normative standards for a range of issues such as equality; redressing social injustices including discrimination on grounds of race and age; balancing social, economic and environmental rights; full and effective participation in decision-making pertaining to the management of marine resources; access to dispute resolution mechanisms; and transparency and accountability (Hauck and Sowman, 2003; Witbooi, 2006). While the MLRA provides the legal framework for managing marine resources, other policies and legislation dealing with environmental and coastal management as well as economic and social development, have a bearing on fisheries governance in coastal communities.

Although these various policies are generally underpinned by sustainability principles and seek to achieve sustainable development outcomes, balancing objectives of equity, environmental sustainability and economic development is difficult and often leads to tensions. These tensions are inevitable if one reviews the overarching national policies governing social development and equity, outlined in the Reconstruction and Development Programme (RDP), the macro-economic policy first articulated in the Growth Employment and Redistribution (GEAR) strategy and the sustainability principles underpinning the National Environmental Management Act 107 of 1998 (NEMA). A key difficulty is that at a national policy level, there is a lack of coherence amongst key policies governing

South Africa’s development path. This incoherence is also reflected in sectoral policies and strategies including the fisheries legislation where the goals of equity, sustainability and stability have neither been explicitly defined nor prioritised, leading to their fragmentary and contradictory implementation (van Sittert et al., 2006).

A further problem appears to be the lack of co-ordination and integration amongst government departments responsible for various aspects of coastal and marine governance. A key issue is understanding the links between achieving sound resource management and addressing the socio-economic problems facing fishing coastal communities. There are two key issues here, firstly, the need to incorporate socio-economic information relevant to the fishers, and their context, into fisheries management decisions. Secondly, the need to enhance understanding amongst fisheries managers that their mandate (namely to ensure the long-term sustainable use and management of marine resources) can only be achieved by addressing the socio-economic difficulties facing poor fishing communities. These issues have been raised in various reports and papers (Glavovic and Boonzaier, 2007, Sowman et al., 2008) and the reasons for these institutional shortcomings are generally agreed upon and understood. However, while there is ongoing discussion about improving co-ordination and integration and strengthening Institutional linkages within and across departments at all levels of government, in reality these institutional shortcomings present a major challenge to sustainable resource governance.

TABLE 3-6. Description of policy interactions and Institutional linkages information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Policy interactions & Institutional linkages	Academic documents, government and NGO reports	National, provincial, fishing community	Witbooi, E. 2006. Law and fisheries re-form: Legislative and policy developments in South African fisheries over the decade 1994-2004, <i>Marine Policy</i> 30: 30-42.

3.3.6 ENFORCEMENT AND COMPLIANCE

Prior to 2009, the constitutional mandate for marine governance was located within the Department of Environmental Affairs and Tourism. This ministry was responsible for fisheries, environmental management and the protection of marine biodiversity. In 2009 this national mandate was re-organised and the Department of Agriculture Forestry and Fisheries (DAFF), Branch: Fisheries Management was established and tasked with the governance of marine fisheries in South Africa. Whilst this includes the promotion of sustainable use and protection of marine biodiversity, responsibility for protection of the marine and coastal environment now rests with the Department of Environmental Affairs (DEA), Branch: Oceans and Coasts. Fisheries management is thus managed at a central level although in one province (KwaZulu-Natal), certain aspects of management such as permit regulations, monitoring and compliance are contracted to Ezemvelo KZN Wildlife.

The fisheries authority is based in Cape Town, with satellite offices for Compliance and Monitoring located in all coastal provinces. Currently the designation of Marine Protected Areas (MPAs) and the management of fisheries within these areas, under the auspices of the Marine Living Resources Act, No 18 of 1998, remains within the

mandate of DAFF. However, the overall management of MPAs is the responsibility of the DEA, Branch: Oceans and Coasts, Chief Directorate: Integrated Coastal Management, although in certain areas SANParks has been assigned enforcement functions. These complicated institutional arrangements for the management of MPAs create tensions amongst management agencies, as they have not necessarily been involved in designing the rules. Furthermore, limited involvement of fisheries and other stakeholders in determining rules and regulations also mitigates against compliant behaviour.

Whereas little published data exist on levels of compliance to regulations among small-scale fishing communities and inshore fishers, this topic has often been debated in policy workshops and other government-led programmes. It is generally accepted that levels of voluntary compliance are low, and high levels of illegal fishing persist. This is due to a broad lack of legitimacy with respect to many fishing policies, regulations and other management measures (Hauck, 2009). Several data sets do exist but remain in custody of organisations such as DAFF, DEA, South African National Parks, the South African Police Services and other law enforcement agencies. Compliance and enforcement programmes have been reviewed by several authors, mainly for the abalone fishery (Raemaekers et al., 2011).

TABLE 3-7. Description of enforcement information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Enforcement	Government departments, academic documents (offer review of compliance initiatives in South Africa)	Individual level, not specific for small-scale fishing community	DAFF database on transgressions to the MLRA Hauck, M. 2009. Rethinking small-scale fisheries compliance: from criminal justice to social justice, PhD Thesis, University of Cape Town, South Africa.

3.4 SOCIAL DIMENSIONS

It is now widely accepted internationally that fisheries comprise interacting social and ecological systems (Berkes et al., 2003) and that managers need to understand these socio-ecological interactions in order to ensure effective management. In this regard, understanding the 'social system' comprising fishermen and women is key. Surprisingly, fisheries governance in South Africa has been slow to institutionalize the capacity to do this, and to date

the fisheries authority has yet to develop a comprehensive database on the social dimensions, or to employ social scientists able to provide this expertise.

As a newly emerging democracy, South Africa faces the task of confronting high levels of poverty and inequality whilst constrained by limited financial and institutional capacity. According to the UN Human Development report of 2010, South Africa's HDI is 0.597, below Namibia (0.606) and Gabon (0.648). Life expectancy is

52 years of age; the average period of formal schooling is 8 years, and the gross national per capita income is \$9,812 (R6,7604.68). These conditions of material deprivation are configured along class, race and gender lines. Social research indicates that these conditions of poverty and inequality are starkly evidenced among small-scale fishers in the coastal settlements of the BCLME. Though the social conditions characterizing small-scale fishing communities in different areas are diverse, a wide range of data make it clear that they experience significant marginalisation socially, politically and economically. This observation has implications for the organisational capacity of fishers, the nature of cohesion and conflict among them, their beliefs, values, and attitudes, and ultimately, for their patterns of resource use. Most significantly, addressing these issues is an imperative in terms of protecting and promoting the human rights of fishing communities. Towards this end, implementing a human rights-based approach to governance in fisheries necessitates an understanding of these social dynamics so that appropriate interventions that aim to balance the triple pillars of sustainable development can be implemented. In a global and regional context of increasing pressure on natural resources generally, and marine resources specifically, contestation over these resources is increasing. If 'community' is to be the key unit of governance ushering in a shift towards community-based small-scale fisheries management (as proposed by the draft small-scale fishing policy), this will only be realised by meaningfully addressing the social

dynamics of coastal settlements that populate the South African region of the BCLME. The collation and analysis of this data is thus central to the future sustainability of governance of the fisheries.

What information is available on social dimensions of fishing communities in the BCLME region? The Subsistence Fisheries Task Team research data presented in the SFTG Report (2000) and subsequently published by Branch et al. (2002) and Clarke et al. (2002) provided a valuable starting point for this data. It covered a wide range of key social indicators, including issues such as historical involvement in fishing, poverty levels, food security levels, education levels, age, levels of household employment and other economic activities, and non-employment related income that have key social implications.

Regrettably the SFTG data is now extremely outdated. In addition, Cardoso et al. (2005) noted the limitations of the data presented by the SFTG Report in that it only gives a national figure for poverty levels amongst the male-headed and female-headed 'subsistence' fisher households surveyed, and not regional figures from which information for the BCLME region can be gleaned (Cardoso et al., 2005:46). Similarly, in terms of access to services (e.g. housing, water, electricity) the SFTG only provides general data for 'subsistence' fishers at national level based on census data and hence this is limited.

3.1.1 GENDER

Government fisheries statistics have been disaggregating data along gender lines since 2002. However, there has been relatively little research undertaken on the intersections of class, race and gender dimensions. Considerable anecdotal information and generalised accounts of women's work and the gendered nature of the fisheries sector exist (Sunde, 2002; Sunde and Telela, 2008; Masifundise, 2008; Sunde, 2010b). Nevertheless, there is a need to undertake more focused work on the particular aspects of women's roles and work in the small-scale sector in the BCLME area, and to quantify the shifts in the extent of women's access to marine

resources and the benefits that have accrued to women since 1994. Across most communities, strong patriarchal relations have shaped and limited women's direct access to the sea, although they have played a critical role in onshore pre- and post- harvesting activities. There are gaps in information pertaining to the overall number of women rights holders and IRP holders in the region, as well as in the related roles played by women. Similarly, there is little understanding of the impact of the closure of the processing plants in the BCC region on household relations and women in particular. There is a need for research that understands the basis of women's social resilience and the factors that determine their well-being in fishing communities.

TABLE 3-8. Description of gender information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Gender	Census 2001, government rights registers, academic documents, NGO reports Note: Academic documents & NGO reports do not cover all fishing communities	National, provincial, fishing community level	Masifundise. 2008. 'Women's Net', Unpublished pamphlet, Masifundise: Cape Town.

3.1.1 SOCIAL COHESION

The majority of small-scale fishers in this region are Afrikaans speaking and belong to the so-called 'coloured' racial group. A relatively small minority of small-scale

fishers fall into the racial categories of 'black' and 'white' (Cardoso et al., 2005). On the west coast there is a long history of predominantly Afrikaans-speaking 'white' and

‘coloured’ people working together in fisheries-related activities. This relationship articulated with apartheid’s discriminatory three-tiered racial hierarchy which ranked the categories of ‘white’ and ‘coloured’ above that of ‘black’, crystallizing a shared racism on the west coast among many coloured and white fishers towards black people. There is a hidden history documenting the presence of Xhosa-speaking African migrants in places like St Helena Bay where black people from other provinces (particularly the Eastern Cape) began to work in St Helena Bay’s factories and pelagic trawlers as early as the 1950s. Since the end of legislated racism (which prevented black people from having freedom of movement and access to opportunities), there has been steady movement of economic migrants from the Eastern Cape into St Helena Bay. In the generalised context of poverty and unemployment, competition for scarce resources has reinvigorated racial tensions in the area (Schultz, 2010). The issue of reinvigorated racial tension is an important emerging dynamic in many settlements along BCLME, as the IRP and draft small-scale fishing policy raise the expectations of marginalised coastal dwellers who are competing for scarce resources.

These social conditions play into the nature of social relations among small-scale fishers, often creating inter- and intra-communal tension or exacerbating pre-existing conflict. The issue of community cohesion and conflict is a critical element of the human dimension of small-scale fisheries. While there is a general pattern of social fragmentation in many small-scale fishing communities emerging from a history of racialised marginalisation, there are some areas where there is a degree of social cohesion and solidarity. These coastal settlements tend to be situated in rural rather than urban areas. This distinction is clearly evidenced when comparing places like Doringbaai on the west coast to Ocean View in Cape Town. Doringbaai is a rural coastal settlement with a small population of roughly 1,149 people, while Ocean View is an urban coastal settlement with a population of over 35,000 people (2001 Census data), although only a small percentage is engaged in fishing-related activities. While both areas experience similar levels of poverty and marginalisation, their social dynamics in terms of conflict and co-operation are very different. In Ocean View, for example, there is a great deal of social conflict among small-scale fishers. This was highlighted in September 2010 at the public participation meeting that was held to debate the draft small-scale fishing policy. Many fishers there expressed vehement opposition to the collective nature of the policy’s community-based approach to rights allocation. In contrast to the deep divisions amongst small-scale fishers in Ocean View, Doringbaai is characterized by relatively robust social cohesion and solidarity. Here there is strong support for the community-based approach adopted by the draft small-scale policy. It is vital to understand the factors

that contribute to social cohesion or conflict in coastal settlements for community-based management measures to be viable. As mentioned in relation to Doringbaai and Ocean view, a key dynamic is the rural or urban nature of a particular coastal settlement. Another is the inconsistent and limited allocation of fishing rights, which wrenched apart the social bonds between friends and family when some received rights while others did not. This social fragmentation may directly impede collective joint-decision-making among small-scale fishers in the BCLME.

Developments relating to the Interim Relief arrangement and the small-scale fishing policy process have introduced new and important social dynamics to coastal settlements in the South African region of the BCLME. Particularly in urban coastal areas, there has been some change in the composition of small-scale fishers, with many newcomers now vying for access to marine resources. Tensions in places like Ocean View and Hout Bay have increased between those with traditional links to small-scale fishing and those who see the IRPs as an economic opportunity. The small-scale fishing policy process has added to these tensions by raising expectations that people will be eligible to receive fishing rights by virtue of being poor and residing in coastal settlements. The number of individuals hoping to benefit from the IRPs and the upcoming policy appears to be growing, and this is setting the scene for conflict.

Small-scale fishers not only engage in a complex range of fishing activities, but this engagement is often conducted in different capacities. Some fishers own boats which they use to catch their own allocations, or which they hire out to other fishers who depend on those who own boats in order to catch their allocation. Some fishers act as crew and others as skippers, sometimes as both depending on the context. Thus there is not only a wide range of sectors that one fisher may work in, but also a wide range of roles that they might play in those sectors. These different roles constitute a class system where social status and economic gain coalesce. Sector-specific management interventions can thus have contradictory effects on the same group of fishers depending on their respective roles in that fishery (Sowman et al., 2008).

Qualitative information and analyses of these dynamics is available for a small number of fishing communities, drawn largely from student theses and academic work. However, no mechanisms yet exist for integrating these insights into decision-making tools in a consistent manner, with the exception of the few ecosystems risk assessment processes that have been initiated which have begun to capture some of the social dimensions in different fisheries (See Paterson and Petersen, 2010).

TABLE 3-9. Description of social cohesion information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Social cohesion	Academic documents, NGO reports Note: Academic documents & NGO reports do not cover all fishing communities	Fishing community	Schultz, O. 2010. An Ethnography of St Helena Bay - A West Coast Town in the Age of Neoliberalism. MA thesis (unpublished), University of Cape Town.

3.4.3 RELIGION

There is very limited information about the religious beliefs of small-scale fishers in the region and the role that religion plays in the lives and livelihoods of the fishers.

Student analysis of the narratives of fishers suggests that religion is a key feature in fishers' lives and shapes their interpretation of their interaction with the sea, and indirectly, their approach to management of the resource (Rogerson, 2009).

TABLE 3-10. Description of religion information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Religion	Academic theses, Census 2001 Note: Information available is outdated	National, provincial, local municipal, town/settlement	Statistics South Africa, online at: http://www.statssa.gov.za/census01/html/C2001Interactive.asp

3.4.4 VALUES, BELIEFS, PERCEPTIONS AND GOALS

International literature indicates that fishers' values, beliefs, perceptions and goals shape fishers' fishing activities and behaviour as well as their responses to management interventions. This is an under-researched

area in the BCC region. Apart from academic reports and theses, and a few community pamphlets that capture the aspirations of the small scale fishers and convey the fishers' opinions on the lack of legitimacy of the current policy and management system, very little is known about the relationship between these issues and the outcomes of specific management interventions.

TABLE 3-11. Description of values, beliefs, perceptions and goals information

Human Dimension	Availability	Scale	Example
Values, Beliefs, Perceptions & Goals	Academic documents/theses, NGO reports, community pamphlets. Note: Academic documents & NGO reports do not cover all fishing communities.	Fishing community level.	Schell, N. 2011. Perceptions of co-management theory and practice in small-scale fisheries management in South Africa. MPhil Thesis (unpublished), University of Cape Town.

3.4.5 LIVELIHOODS, PRACTICES, OPTIONS AND STRATEGIES

Contrary to small-scale fishers in many parts of Africa and along the Eastern Cape coast, most small scale fishers

in the BCC region appear to have few other livelihood strategies, and dependence on fishing as the primary livelihood strategy is common, as indicated by the table below based on the SFTG research.

TABLE 3-12. Historical involvement, alternative sources of income, employment

Region A – Orange River to Olifants River Region B – Olifants River to Hout Bay Region C – Hout Bay to Breede River								
BCLME REGION	HISTORICAL INVOLVEMENT (YEARS) IN FISHING			ALTERNATIVE SOURCES OF INCOME TROUGH EMPLOYMENT OPPORTUNITIES		TYPE OF EMPLOYMENT OPPORTUNITIES		
	<20	20-50	>50	YES	NO	PART-TIME / SPORADIC	SEASONAL	FULL-TIME
A	0	19	81	64	36	9	82	9
B	0	4	96	36	64	30	65	5
C	3	6	91	74	26	58	35	8

Apart from the SFTG data, which is now outdated, there is very little data on this issue with the exception of individual community-level reports (for example, on Doringbaai in Sowman et al., 2008). However, while fishing is a primary livelihood strategy, fishing activities range across sectors. For example, some fishers alternate between working as crew on ski-boats and in the large-scale trawl sector, or catching line-fish and rock lobster with IRPs or limited commercial permits. Depending on the species and quantity harvested, a portion of the catch may be used for domestic consumption, while some of it is sold for cash. Markets are generally localised, but line-fish, west coast rock lobster and abalone are sold to marketers from outside the community who then sell to large companies for export. It is well known that marketing arrangements tend to favour the interests of the buyer, with fishers having little control of pricing (Cardoso et al., 2005; Raemaekers, 2010).

Two of the main livelihood opportunities that have

been proposed for coastal settlements in the BCLME relate to tourism and aquaculture. However, both have disadvantages for small-scale fishers seeking alternative livelihoods outside of fishing. While tourism is a major income earner along South Africa's coastline, it is seasonal, and the market is highly competitive and dominated by established operators. Tourism does provide some jobs to local people in coastal settlements, but these are few as the industry is not labour intensive. The benefits from tourism tend to go to those who are already well positioned socio-economically. Tourism can also have a negative impact when rural coastal settlements become sought-after for property investment by wealthy people from outside the area, causing land and housing prices to rise, increasing the marginalisation of poorer communities (Glavovic et al., 2002). There is no specific data on the extent to which small-scale fishing communities are benefitting directly from the recreational fishing industry, boat-based whale watching or from the growing investments in aquaculture in the region.

TABLE 3-13. Description of livelihoods, practices, options and strategies information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Livelihoods, Practices, Options & Strategies	Academic documents, NGO reports Note: Academic documents & NGO reports do not cover all fishing communities	Fishing community	Sowman et al. 2008. Effective Sustainable Livelihood Options for fishers in three coastal communities. Report prepared for National Environmental Advisory Forum. Appendix A (Doringbaai) and Appendix B (Kleinmond)

3.4.6 HEALTH AND EDUCATION

The social and spatial segregation inherited from apartheid continues to define the social dynamics in coastal settlements, shaping the multi-dimensional nature of poverty that prevails in these areas (Glavovic and Boonzaier, 2007; Hauck and Sowman, 2003; Hersoug, 2002). Throughout the BCLME region, in both rural and urban areas, small-scale fishing communities are characterized by poor infrastructural development, limited access to services such as health and education, and a range of social problems that are associated with these conditions (Cardoso et al., 2005). Though there is a lack of baseline quantitative information on social conditions in these communities, research conducted in Port Nolloth, Hondeklipbaai (Blair, 2011), Doringbaai (Sowman et al., 2008), Elandsbaai (Isaacs, 2003), St Helena Bay (Schultz, 2010), Hangberg (Raemaekers, 2010), and Kleinmond (Sowman et al., 2008) indicates that a high percentage of small-scale fisher households suffer from substance abuse, domestic violence, low levels of formal schooling, and ill health (particularly related to tuberculosis and HIV/AIDS, see Isaacs and Hara, 2008).

The provision of basic household services such as water and electricity to fishing communities in coastal

settlements varies considerably. In Hangberg for example, only 37% of households have toilets inside their dwelling, while 35% use communal toilets and 10% use the bucket system (Raemaekers, 2010). On the other hand, in St Helena Bay, 95% of households have toilets in their home. One hundred percent of households in St Helena Bay use electricity for lighting, while 95% of households in Lamberts Bay use candles (Cardoso et al., 2005; 2001 Census).

While there is some diversity regarding the provision of household services, services such as health care and education are severely lacking. For example, in rural areas like Doringbaai, there is no clinic and a public doctor is only available once a week (Sowman et al., 2008). Furthermore, in Doringbaai, Elandsbaai and St Helena Bay, there is no high school and public transport to schools in adjacent towns is limited and expensive, making it very difficult for students to complete their schooling (Isaacs, 2003; Sowman et al., 2008; Schultz, 2010). Education statistics for primary schools in coastal towns are available; however, these statistics reflect the education levels for all households, not just those of small-scale fishers, and hence more local-level research is required to supplement this data in order to use it as a useful indicator of the human dimensions of a specific fishery system.

TABLE 3-14. Level of education of those aged 20 or older in 'subsistence' fisher households in the South African portion of the BCLME *Surveyed by the SFTG (2000)*

		NO SCHOOL- ING %	SOME SCHOOLING %	COMPLETE PRIMARY %	SOME SECONDARY %	MATRIC %	HIGHER %	TOTAL %
People >20 years of age	West BCLME	2.6	67.5	12.9	14.9	2.1	0	100
	South BCLME	2.5	60.8	10.9	21.2	1.6	0	100
Subsistence fishers >20 years of age	West BCLME	2.4	74.7	12.0	10.8	0	0	100
	South BCLME	12.1	68.1	7.75	11.0	1.1	0	100
Commercial fishers >20 years of age	West BCLME	0	100	0	0	0	0	100
	South BCLME	3.8	63.5	10.6	21.2	1	0	100

The lack of access to education articulates with high levels of substance abuse, domestic violence and the loss of traditional access to marine resources, exacerbating general conditions of poverty and marginalisation in coastal settlements, both rural and urban (Glavovic et al., 2002; Glavovic and Boonzaier, 2007).

Health statistics are not disaggregated at fishing-community level and although there is an improvement in the quality of data being reflected in the IDPs, there are very few analyses of these data from the perspective of the relationship between fishers' livelihoods and access to resources, and their health.

TABLE 3-15. Description of health information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Health	Census 2001, government departments, IDPs, academic documents/theses Note: Health statistics are not available for the town/settlement level	National, provincial and local municipal	Overstrand Draft Integrated Development Plan 2011/2012, 'Access to Health Facilities', online at: http://www.overstrand.gov.za

TABLE 3-16. Description of education information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Education	Census 2001, government departments, IDPs, academic documents Note: Most education data is based on the Census 2001, except for government departments (which provide updated but very limited statistics)	National, provincial, local municipal and town/ settlement	Western Cape Department of Education, online at: http://wcedemis.pgwc.gov.za/wced/findaschool.html

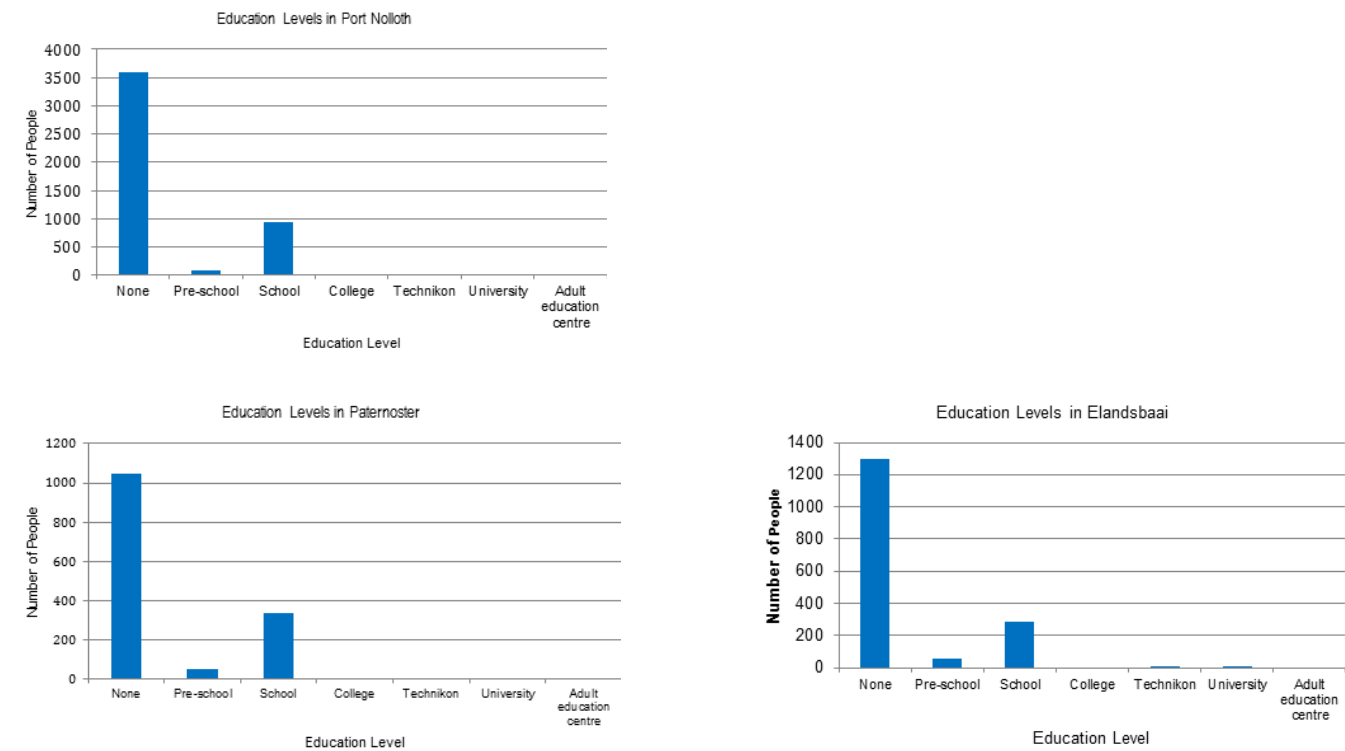


FIGURE 3-2. Examples of education levels of selected fishing communities in the BCC region (Source: Census 2001)

3.4.7 FOOD SECURITY

In a context where fishing is the primary livelihood strategy, the loss of access to marine resources resulting from the increase in regulations has direct implications for food security and income levels among small-scale fishers in coastal settlements. This is exacerbated by the seasonality of fishing, the decline in species abundance, or the unviable size of quota allocations (the current limited commercial WCRL quota can be caught in less than a week). Fishers are placed in a very difficult financial position and often have to incur debt to meet their living costs. The result is that they are often forced to seek scarce work outside of

fishing in formal sectors such as construction, or in the informal sector doing odd jobs such as picking fruit or domestic work in white neighbourhoods. These alternative sources of income tend to be part-time, sporadic and limited in terms of availability, reflecting a nationwide context of declining employment opportunities (Glavovic and Boonzaier, 2007; Sowman et al., 2008). Sowman and Cardoso. and Masifundise. provide updated statistics and qualitative analysis of the issue of food security of relevance to the BCC region. Individual fishing settlement-level data is also available for a few towns but this is in grey literature within NGOs (Masifundise, 2010b).

TABLE 3-17. Description of food security information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Food security	Academic documents, NGO reports. Note: Academic documents & NGO reports do not cover all fishing communities		Sowman, M. & Cardoso, P. 2010. Small-scale fisheries and food security strategies in countries in the Benguela Current Large Marine Ecosystem (BCLME) region: Angola, Namibia and South Africa. <i>Marine Policy</i> 34(6):1163-1170.

3.4.8 RIGHTS OF FISHERS

In the past ten years, the South African legislative and policy framework applicable to the BCLME region has been well documented in the literature. The ‘transformation’ and legal reform agenda of the 1990s has been described and the principles underpinning it identified (Isaacs, 2003; Cardoso et al., 2005; Sowman, 2006; Witbooi, 2006; Isaacs et al., 2007; Ponte and van Sittert, 2007;

Raemaekers, 2009; Hauck, 2009). This literature has also described and discussed the failure of this framework to accommodate small-scale fishers equitably. This issue has been the subject of public interest litigation and an extensive set of court records exists elaborating on the nature of this exclusion (Kenneth George versus the Minister in the Equality Court EC1/05). The founding papers for this litigation provide evidence of the failure

of the existing governance system to address the social and economic rights of the artisanal, traditional fishers. This case has contributed towards the elaboration of the link between small-scale fisheries' governance and human rights in South Africa (Sunde, 2003; Jaffer and Sunde, 2006; and Masifundise, 2006; 2010a) and evidence of the impact of this is emerging in the content of the draft small-scale fisheries policy (DAFF, 2010).

Considerable grey literature documenting fishers' protests with respect to their rights exists in the form of conference and workshop proceedings (Masifundise, 2002; Sunde, 2003; Telela, 2004); articles in popular media (Sunde 2002, 2004); memoranda submitted to DEAT (Masifundise, 2006a); submissions to the Portfolio Committee of Parliament (Masifundise 2006b); comments on the draft policy (Masifundise, 2006b; 2009; Coastal Links, 2009; George, 2009); unpublished reports on Western and Northern Cape Workshops with representatives from fishing communities (Masifundise, 2008; 2009; 2010b); letters to the press, and media coverage of meetings (Masifundise, 2006-2011).

The International Fisher Forum hosted by Masifundise parallel to the World Forum on Sustainable Development (Masifundise, 2002), was attended by 115 fisher representatives from the BCLME region. This was followed by the Fisher Human Rights Hearings in the Western Cape in 2003 (Sunde, 2003). These initiatives documented the concerns and demands of small-scale fishing communities and provided them with an opportunity to raise the 'human dimensions' and ensure that their voices were heard.

These issues echoed many of the human dimensions of fisheries raised by the Subsistence Fisheries Task Group

(SFTG) in their report (SFTG, 2000), but from the fishers' perspective and in their own voice. The court papers developed for the public interest litigation on their behalf in 2004, as well as those developed for subsequent actions, identified a number of substantive governance-related issues. These included discrimination against this class of fishers in relation to key socio-economic rights, lack of administrative justice, the inappropriateness of the individual quota system as a policy mechanism, and the lack of adequate public participation and consultation (EC 1/05 2005). Central to the arguments presented in the court papers on behalf of the artisanal fishers has been the citing of the rights of these fishers and the need for the Minister to recognise the rights of these fishers in accordance with the Constitution. The Court Order of 2007 confirmed the Minister's obligation to address the socio-economic rights of these traditional fishers who were the applicants in this court case, extending from Port Nolloth in the west to Arniston along the south coast.

The relationship between the approach to rights' allocation in 2006 and specific management outcomes has also yet to be analysed in any way. Databases exist with lists of both long-term rights' holders and exemption holders, as well as interim relief permit holders. These data are disaggregated along gender lines and also provide information regarding the geographical location and age of the fisher. The data on those fishers' allocated rights in 2006 also include information on the fishers' history in the industry and their record of rights' holding. It also indicates their relative level of dependency on the species for which they applied for a right. Data exist on the extent of transformation in the industry in terms of access rights on racial grounds, although this has yet to be extended to gender. However, while this data exists within DAFF, it has not been analysed.

TABLE 3-18. Description of rights of fishers information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Rights of Fishers	Legal documents, NGO reports, community pamphlets, academic documents. Note: These documents & reports do not cover all fishing communities.	Regional, local and town/settlement.	Masifundise. 2003. 'Enough is Enough: We want to be heard', Report on the Fisher Human Rights Hearings. Masifundise Development Trust, Cape Town.

3.5 ECONOMIC DIMENSIONS

There are generally very little data on the economic conditions in which fishers live. There are local level studies undertaken as part of broader research programmes that address specific economic issues such as income levels of fishers in a particular fishery. However, no regular monitoring of this human dimension is currently being undertaken. The SFTG report (2000) is still considered the best available data.

There is diversity of economic conditions within small-scale fishers in coastal settlements. These areas are characterised by high levels of poverty and unemployment, with few opportunities to earn an income outside of fishing (Glavovic et al., 2002; SFTG Report, 2000). Despite the outdated nature of the 2001 census, this national-level data set can provide a general indicator of economic trends in the small-scale fishing communities of the BCLME region. Overall, the proportion of the work force in coastal

settlements that had either no income or an income of less than R1,601 per month ranged between 63% and 97%, with the average being above 80%. More recent fisheries-specific studies by Isaacs (2006) and Glavovic and Boonzaier (2007), have confirmed original findings by the SFTG and data from the 2001 National Census survey. They indicate a pattern of material deprivation associated with high levels of poverty and unemployment.

3.5.1 POVERTY

The broad context of poverty and lack of economic opportunities in coastal communities serves to increase the pre-existing reliance of fishers upon marine resources. This is one of the key findings emerging from existing research on small-scale fishers in the BCLME. Marine resources are the primary source of food and income for small-scale fishing communities and marine harvesting is considered a key livelihood strategy. Fishing enables people to put food on the table and generate a small amount of cash to purchase goods in the market economy (Cardoso et al., 2005; Sowman et al., 2008; Schomer et al., 2009; Raemaekers, 2010). For example, fishing was the primary source of income for 60% and 100% of the fishers in Paternoster and Struisbaai respectively.

When asked to quantify the contribution of fishing activities (by the fishers and other household members) towards total household income, 57% of fishers in Paternoster indicated that fishing amounted to 76-100% of total income, while 10% indicated it contributed

between 51-75% (Cardoso et al., 2005).

In places such as St Helena Bay on the West Coast, which is typical of coastal settlements in the BCLME region, a large proportion of the population could be described in terms of high levels of asset poverty, cash dependency and food deprivation (Socio-economic Profile of the West Coast District Municipality, Chapter 5 Saldanha Bay Municipality 2006). Statistics generated by StatsSA for the Saldanha Local Municipality for 2008 record that 37,590 respondents out of a total of 76,212 (49%) said that they had no income. Research conducted by Cardoso et al. (2005) in Paternoster on the west coast, and Struisbaai on the south coast, suggests that the economic conditions prevalent in St Helena Bay are not unique when compared with other coastal settlements in the BCLME region. In the months when income was highest (i.e. during the summer fishing season), 63% of households in both settlements had incomes below R1,500, and in the months when income was lowest (i.e. during the winter months when fishing activities were curtailed), 77% of households in Paternoster and 70% in Struisbaai had incomes below R1,000 (Cardoso et al., 2005).

TABLE 3-19. Income level and categories for coastal communities in the BCLME region of South Africa

AREA SURVEY AND LOCALITIES	MEAN ADULT EQUIVALENT INCOME/MONTH	'POOR': 40TH PERCENTILE	'ULTRA-POOR': 20TH PERCENTILE	VALID N
West Coast	425.04	18.6	5.56	71
Port Nolloth	380.27	15.38	7.69	25
Ebenhaezer	284.91	28.57	0.00	21
St Helena Bay	587.51	12.00	8.00	25
South Coast	735.44	28.13	16.25	159
Cape Town	567.21	24.00	12.00	25
Kleinmond	259.00	36.36	13.64	22
Buffeljags	655.73	33.33	9.52	21

TABLE 3-20. Description of poverty information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Poverty	Census 2001 in terms of access to basic services, income levels, etc.), IDPs, academic documents, NGO documents in terms of accessing case specific studies (not available for all BCLME fishing communities)	National, provincial, town/ settlement fishing community	Glavovic, B.C. & Boonzaier, S. 2007. Confronting coastal poverty: Building sustainable coastal livelihoods in South Africa. <i>Ocean and Coastal Management</i> 50:1-23.

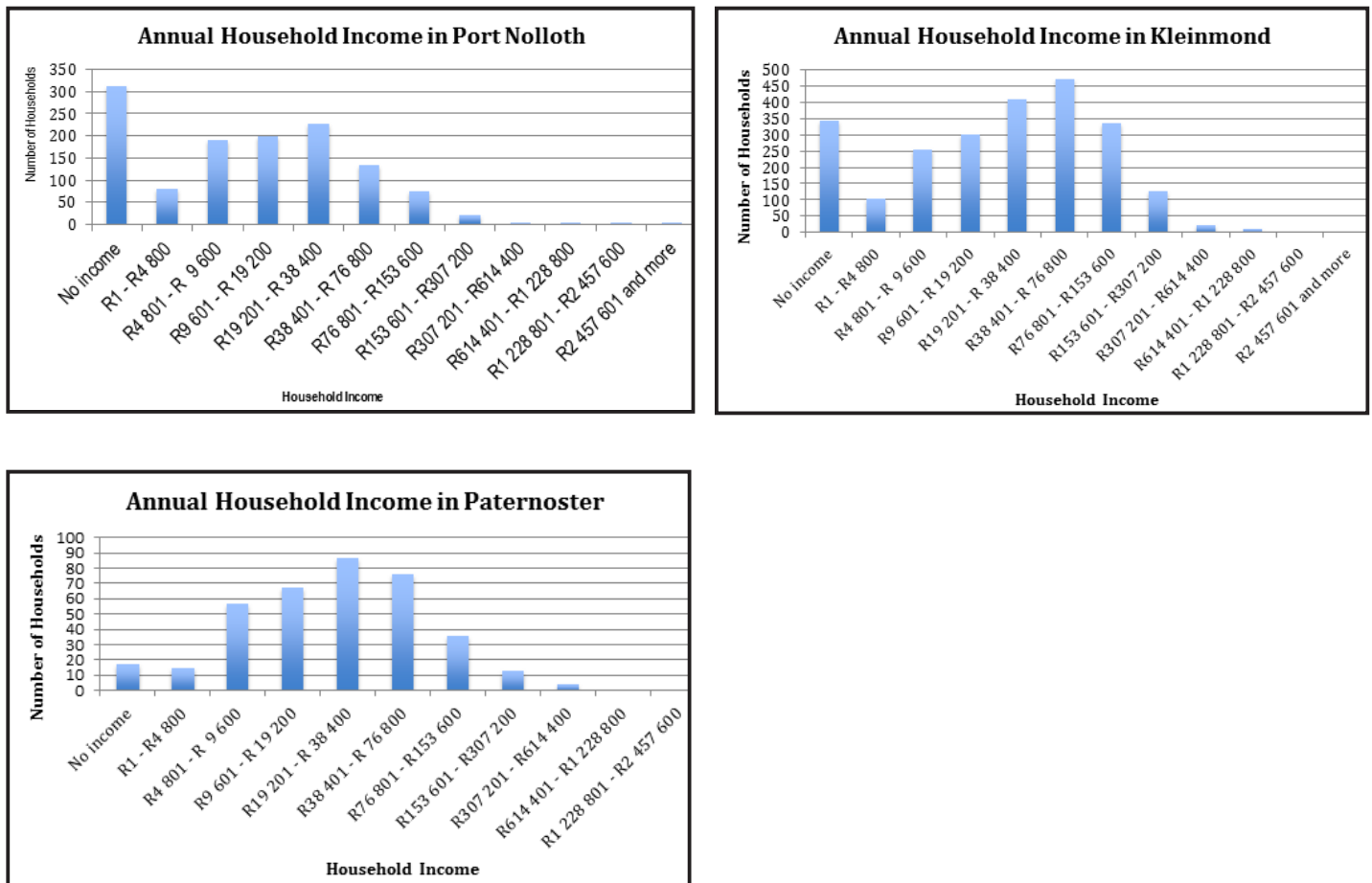


FIGURE 3-3. Examples of household incomes of selected fishing communities in the BCC region (Source: Census 2001)

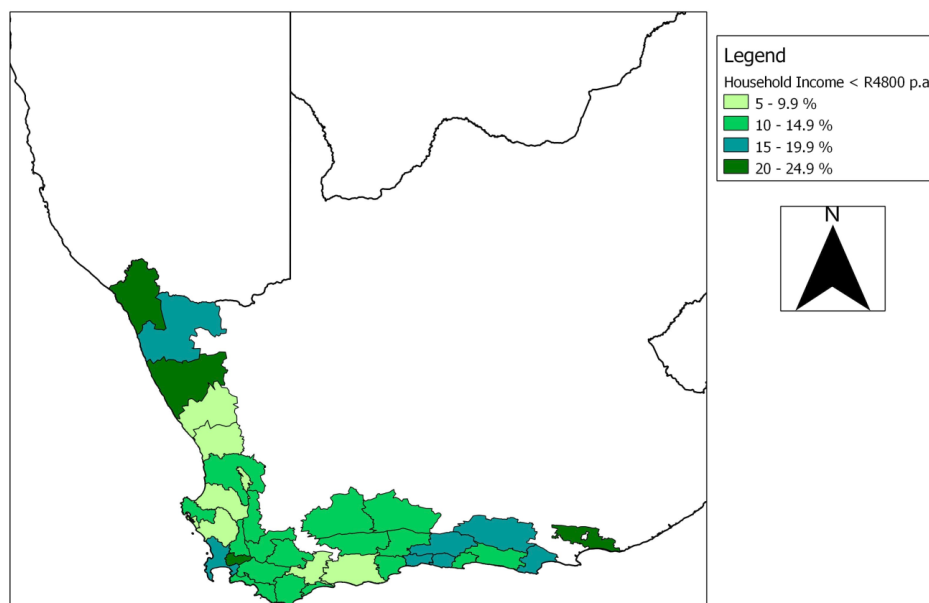


FIGURE 3-4. Map of households in the BCC region earning <R4,800 per year (Source: Census 2001)

3.5.2 EMPLOYMENT

Fishers generally have low levels of formal education and a lack of skills outside of fishing, making it even more difficult to embark on alternative livelihood paths. However, land-based activities relating to fishing (such as boat building and repairs, making and repairing nets, salting and drying of fish) do not present a viable alternative as these are subject to similar limitations that constrain the harvesting of fishing itself. For instance, research conducted in Paternoster and Struisbaai indicated that fisheries-related activities by either the fishers or other members of the household played a negligible role as a means of generating income. People engaged in their own boat or net repairs did not derive an income from this (Cardoso et al., 2005). In this broad context of poverty and unemployment that characterizes coastal settlements in the South African section of the BCLME, there is high level of reliance upon social grants (Glavovic and Boonzaier, 2007; SFTG Draft Report, 2000). Research

conducted in Doringbaai for example, has indicated that grants provided by the government constituted the second most important contributor to household income (Sowman et al., 2008). On the west coast, ‘All Pay Day’ as it is known among locals, has become a much-anticipated monthly ritual upon which hundreds of small-scale fishers depend (Schultz, 2010).

According to Cardoso et al. (2005), only a small percentage (15% and 11%, for the west and south coasts respectively) of the economically active resident household members had regular employment; and 16% and 23% (for the west and south coasts respectively) were unemployed (using the expanded definition of unemployment, SFTG, p. 41). Besides a small percentage of scholars (12% and 4.5% in the west and south coasts), most of the remainder (57% and 61% respectively) of the economically active residents were involved in ‘other activities’ that translate into being ‘underemployed’.

TABLE 3-21. Description of employment information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Employment	Census 2001, IDPs for general employment level data academic documents for case specific studies	National, provincial, town/settlement. Community or fisher group specific data for case study research	SFTG (Subsistence Fisheries Task Group). 2000. Recommendations for Subsistence Fisheries Management in South Africa. Subsistence Fisheries Task Group Final Report. Prepared for Marine and Coastal Management, Department of Environmental Affairs and Tourism, South Africa.

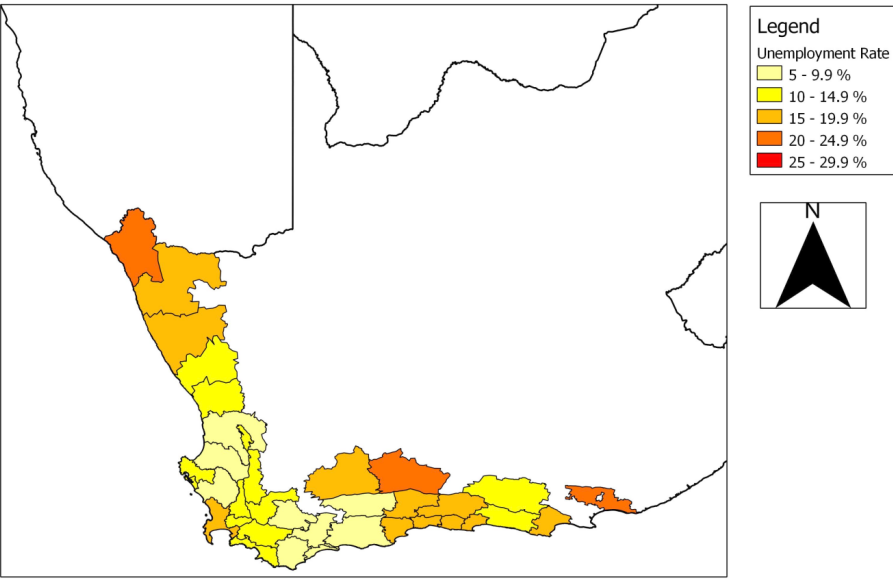


FIGURE 3-5. Map of unemployment rates in the BCC region (Source: Census 2001)

3.5.3 ALTERNATIVE ECONOMIC OPPORTUNITIES

There are few economic opportunities available in coastal settlements in the BCLME region. On the Namaqualand coast, mining and fishing industries have experienced a significant decline over the last fifteen years. In places like Port Nolloth, the closure of the John Ovenstone

rock lobster processing and packaging factory in 2001 had a significant impact on the 110 (mostly female) employees who worked there. In Hondeklipbaai, the chairperson of the local fishers’ association stated that when many from the coastal town lost their jobs in mines, they hoped to shift to making a living from the sea, as “it was their only solution” (Blair, 2011). Much of the coastal land in Namaqualand is owned by mining

companies, limiting opportunities for both tourism and agriculture. Making a living from the land through agriculture is further limited by poor soils and minimal rainfall, and the seaweed harvesting sector is very small (Cardoso et al., 2005). The west coast has more economic opportunities than the Namaqualand coast, but these are mostly related to the industrial activities in and around Saldanha. However, there is intense competition for work in the area, as thousands of migrants from around the country have arrived (and continue to arrive), in search of work. The result is that unemployment levels remain

high in the West Coast District (Cardoso et al., 2005). In Cape Town, there is also intense competition for jobs and high levels of unemployment in coastal settlements such as Hangberg, where 87% of respondents indicated they rely solely on fishing-related activities for their monthly income (Raemaekers, 2010). On the south coast, tourism is a major income earning opportunity, though this is seasonal and dominated by people with the necessary capital and skills. Local small-scale fishing communities are generally unable to harness the benefits generated by the south coast's tourism industry (Cardoso et al., 2005).

TABLE 3-22. Description of alternative livelihood options information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Alternative Livelihood Options	Academic documents, government departments (E.g. Community Programme Work), IDPs. Note: Academic documents do not cover all fishing communities	National, provincial, local municipal, fishing community	Authar, R.R. 2008. An investigation of the socio-economic profile of the Doringbaai community and its current and potential future livelihood options. University of Cape Town: Research project.

3.5.4 TRADE AND MARKETS

Depending on the species and quantity harvested, a portion of the catch may be brought home to be eaten, while some of it is sold for cash. Markets are generally localised, but line-fish, west coast rock lobster and abalone are sold to marketers from outside the community who

then sell to large companies for export. It is well known that marketing arrangements tend to favour the interests of the buyer, with fishers having little control of pricing (Cardoso et al., 2005; Raemaekers, 2010). Overall, limited information exists on markets and trade, and no market study has yet been undertaken for the small-scale fishing sector in the BCMLE region of South Africa.

TABLE 3-23. Description of trade and markets information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Employment	Census 2001, IDPs for general employment level data academic documents for case specific studies	National, provincial, town/settlement. Community or fisher group specific data for case study research	SFTG (Subsistence Fisheries Task Group). 2000. Recommendations for Subsistence Fisheries Management in South Africa. Subsistence Fisheries Task Group Final Report. Prepared for Marine and Coastal Management, Department of Environmental Affairs and Tourism, South Africa.

3.5.5 DISTRIBUTION OF BENEFITS AND RISKS

Studies or data on distribution of benefits from fishing as well as associated risks were not found. One such study was undertaken for the Eastern Cape coast of South Africa.

TABLE 3-24. Description of benefits and risks information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Distribution of benefits and risks	Academic documents Note: Academic documents do not cover all fishing communities	Fishing community	Sunde, J. & Isaacs, M. 2008. Marine conservation and coastal communities: who carries the costs? A study of marine protected areas and their impact on traditional small-scale fishing communities in South Africa. Chennai, India, International Collective in Support of Fishworkers.

3.5.6 ACCESS TO CREDIT

Very few communities and fisher groups have access to credit schemes or microfinance, although interviews with fishers have indicated that these mechanisms are being

explored with the assistance of local municipalities. No studies or data exist on this issue for fishing communities in the BCLME region, although various authors have discussed the importance of addressing it.

TABLE 3-25. Description of access to credit information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Access to credit	very little info, except for discussion in policy reviews	Fishing community	Isaacs, M. 2006. Small-scale fisheries reform: Expectations, hopes and dreams of "a better life for all". <i>Marine Policy</i> 34(1):51-59.

3.6 CULTURAL DIMENSIONS

A significant and defining trait of small-scale fishing in the South African BCLME region is that it is, to varying degrees, community-based, and has a strong traditional component that embeds these activities deeply in the socio-cultural milieu. Any intervention in this context thus demands an understanding of the cultural dimensions of the small-scale fisheries; how these might shape interactions between stakeholders and role players, and within and between different fisheries' systems. There is also a constitutional obligation to protect the rights of persons to practice and enjoy their culture (Constitution of South Africa, 1996, Section 30-31), and the state has put a legislative and policy framework in place to protect the cultural heritage of the diverse cultures that constitute the peoples of this country.

3.6.1 LOCAL KNOWLEDGE, CUSTOMARY FISHING PRACTICES AND INSTITUTIONS

The traditional culture of fishing communities in the BCLME region of South Africa has occupied a central place in the history of the development of these communities as well as in the region as a whole. For small-scale fishers, their identity, skill, and way of being in the world are closely tied to the ocean and coast (Masifundise, 2009; 2010). Fishing in this context is more a way of life than an economic activity. Fishers believe that they have a right to access marine resources that pre-dates statutory regulations that may prohibit them from doing so. Thus, there is tension between this sincerely held belief in a pre-legislative right and the actual regulatory dispensation embodied in the MLRA, which has not recognized this right (Hauck, 2009). More than 15 years after the end of apartheid, the hope that the democratic dispensation would legislate what they believe is their birth right has yet to be realised for many of these fishers. The consequence of this is that many fishers question the legitimacy of the rules, which govern their fishing-related activities. Recently there has been an increased acknowledgement of different aspects of this fishing culture and traditions in research (Dennis, 2010; Isaacs, 2010; Van Zyl, 2008);

popular media (Masifundise, 2008); workshop reports (Sunde, 2010b), and in advocacy and legal documents (George, 2009; Masifundise, 2009). Fishing communities and their supporters have used notions of 'culture', custom and 'tradition' to argue for the recognition of their rights and preferential access to resources (Sunde, 2010b).

The portrayal of small scale fishing culture is neither consistent nor uncontested however and, as van Sittert (1992) notes, is subject to extensive mythologizing. Van Sittert exposes the various strands of discourse that have shaped perceptions about the culture and traditions of fishing communities in the Western Cape, illuminating the many ways in which fishers and others have used the stereotype of the poor fisher, living in close commune with nature, pitting his skills against the sea, towards a range of political ends. Notwithstanding this critique, the link between the material basis of the artisanal fishing communities' culture, their local ecological knowledge and their access to the sea has been clearly articulated in the affidavit of the first applicant in the Kenneth George versus the Minister litigation case (Equality Court EC1/05). This link has also been made in a range of related affidavits presented by different fishers and supporters in subsequent submissions to the Equality Court in relation to the net fishers' access to interim relief in 2010 (EC 1/05; Sunde, 2010a).

The historical development of the relationship between fishers' culture, their 'tradition', their identity and their legal access to the sea and specific resources, has received attention in a number of Masters and Honours research projects. Namely, Van Zyl's work in Kassiesbaai (2008), Dennis's work in Arniston and Struisbaai (2010) and Rogerson's work with Kenneth George, the applicant in the Equality Court matter (Rogerson, 2009). Of particular relevance as a key human dimension is the expression of the link between their livelihoods as fishers and the shaping of their personal and community-based identity.

Fishers often refer to a biologically based connection in statements such as "die see is sterk in hul borste"[The sea is strong in people's breasts], "dis in hulle" – [it's in

them] (Van Zyl, 2008:33), and “catching fish is in our blood....our daughters and the women were part of this fishing...fishing flows freely through our veins” (Solene Smith, Langebaan in Sunde, 2007). This is also reflected in the words of Tony Trimmel from Kalk Bay: “It’s very easy to identify a fisherman... we have to see who are the fishermen, anybody with the knife here? We’ll cut through the veins and if there is blood coming out of that vein they are not a fisherman, if there is salt water coming out of that vein they are a fisherman” (Sunde, 2003). Many fishers refer to their occupation as a calling and this shapes their sense of identity as well as their sense of entitlement to continue doing what they believe they have been called to do: “I am a fisherman; that is my career and my calling” Japie Britz, Ocean View, 2003 (Sunde, 2003).

Fishing cultures vary considerably along the coast; however, common to most of these communities is the ways in which their fishing practices are embedded in the social relations of the community. Many fishers cite the high-risk nature of their occupation with their need to depend on their co-fishers and neighbours. In the words of fisherman Derek Ocks from Langebaan:

We lived in a house about ten metres away from the edge of the Lagoon, just near the main beach. Our house was part of a group of houses where all the net fisher families lived. We lived as if we were one large family, often sharing meals and always there to assist one another. For example, if a storm came up, no matter who it was, the first fisher or family to see the storm would go down to the water’s edge and pull all the boats up the beach, not just their own boat. As children this was a rule that we grew up with and we always knew if we were called to come and pull up the boats that’s what we had to do. (Equality Court EC 1/05).

The fishers refer to a culture of reciprocity and a collective ethic in the past. This interdependence has been eroded over the past decade with the exclusion of many fishers from legal access to the sea. The fishers blame the introduction of the individual quota system for the breakdown of the social fabric in many of their communities, and argue that the quota system ‘pitted neighbour against neighbour’.

This was a strong theme emerging in the testimonies of fishers in the Fisher Human Rights Hearings held in 2003 (Sunde, 2003). In these testimonies, the fishers described the inextricably linked social, economic, psychological and political impact of their exclusion and marginalisation through the new fisheries rights’ allocation system.

Of significance to an understanding of the human dimensions of fisheries is an understanding of fishing communities’ perceptions of the link between the sea and the land. Whilst this differs in different localities, an enduring trend appears to be the perception of the indivisibility of the land and sea, and hence it is hard for the fishers to understand the bureaucratic structure of different planning departments in which ‘fisheries’ are managed separately to ‘land’ issues. This aspect was most visibly demonstrated in the oral histories of fishers who were forced to move from their land in Vaalplaas, Paternoster (Sunde, 2003), as well as in the case of the fishers currently involved in a struggle to retain their rights to fish in the Olifants Estuary. In the words of a local fisher: ‘Ons vang vis op ons grond’ [we catch fish on our land] (Masifundise 2010). This issue relates to the acute ‘sense of place’ and ‘waters’ developed by fishers, and their often deep attachment to and local ecological knowledge of a place (Van Zyl, 2008; Rogerson, 2009). The Convention on Biodiversity Article 8 (j) and 10 (c) recognise the value of this local and indigenous knowledge and its link with sustainable use of natural resources (UNEP, 2009).

Recent international scholarship suggests an association between the resilience of socio-ecological systems and the integration of local ecological knowledge (Berkes et al., 2003). There is very little published research on this link in the South African BCLME context, although this is the focus of a research project recently completed in the region (Rogerson, 2010).

TABLE 3-26. Description of local knowledge, and customary fishing practices and institutions information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Local Knowledge	Academic documents/theses Note: Academic documents do not cover all fishing communities	Fishing community	Williams, S. 2011. Between Rights and Rites: A case study of resource access and social dynamics at Ebenhaeser-Papendorp and Covie, South Africa. Unpublished PhD research in progress, University of Cape Town.
Customary Fishing Practices & Institutions	Academic documents/theses, legal documents Note: Academic documents do not cover all fishing communities	Regional and Fishing community	Sunde, J. 2010. Transforming the governance of small-scale fisheries in South Africa: the contribution of customary law, institutions and practices, Unpublished PhD research in progress, University of Cape Town.

3.7 POLITICAL DIMENSIONS

3.7.1 POWER STRUCTURES

The questions of ‘who decides and how’ and ‘who gets access to what and how’ are shaped dramatically by relations and dynamics of power. The issue of power in fisheries’ governance presents a paradoxical challenge for management: power relations and dynamics are generally beyond the limits of management control, yet they determine management outcomes to significant extent. Relations of power are by nature ‘everywhere and nowhere’ simultaneously, making it very difficult to account for, and accommodate them within management functions (Jentoft, 2007). For example, although South Africa has embraced principles of participation, co-operative governance and the redressing of past imbalances to achieve equity in policies and legislation relevant to resource management (including fisheries management), power imbalances between users and authorities are widely evident. On most matters, resource allocations, management measures, rules and regulations, and decisions are taken by the national fisheries agency with limited or no input from fishers.

There is limited research on power relations on a local scale, although this issue is highlighted in most social science research conducted in small scale fishing communities (see Sunde 2010b; Schultz, 2010; Isaacs, 2003). One of the thematic issues that has emerged from this work is the role of local elites in small-scale fisheries governance. Within coastal ‘communities’ there is contest and conflict as much as there is solidarity, shared values and identity. There are class divisions between elites who exercise a disproportionate influence in community organisation (using this influence to benefit from local fishing activities), and those without the necessary social and economic capital to influence community organisation, who tend to benefit less than others in the community. The medium and long-term rights allocation process revealed this asymmetry very clearly. In small-scale fishing communities, local elites were better able to navigate the complicated application process successfully, while most fishers found the application process beyond their financial or educational capacity (Isaacs, 2006). These class divisions also have direct implications for participatory and consultative processes where management agencies engage with individuals and organisations who claim to represent small-scale fishers.

Despite concerns about power imbalances between and among small-scale fishers, industrial fishing companies and government departments, it is important to highlight the power that civil society has wielded in governance processes since the new General Policy was implemented in 2005. Civil society challenged the government about the loss of rights to marine resources (Kenneth George vs. the Minister, 2007), and has participated in formulating

the new draft small scale-fisheries policy. The organisation of 17 coastal communities in the BCLME region of the Northern and Western Cape into the community-based organisation ‘Coastal Links’ has undoubtedly facilitated the expression of the human dimensions from the fishers’ perspective. However much of the information on this process is documented in unpublished grey literature (see for example Trane 2010), and there has been little dissemination of this information to the broader community.

Although there is repeated reference to the power imbalances at play within small-scale fisheries governance processes in the BCLME, there is very little literature that critically analyses the underlying structural forces that have historically shaped these power relations, resulting in the particular ways in which the governance framework has been interpreted. Van Sittert (1992, 2004), and Ponte and van Sittert (2007) are among the few sources of critical analyses that explore the underlying political economy of the fisheries in the BCLME region, including the role of the state vis-à-vis capital, and how this has shaped governance outcomes historically (with documentation to support this analysis). This is a significant lacuna in the literature on the human dimensions of governance in this region. There is a tendency to describe the politics of the fisheries system and their intersection with specific management policies and attendant outcomes, and to focus criticism on the more technical aspects of different management approaches, rather than to interrogate the drivers of these relations and the implications for the rights of small-scale fishers.

Key issues noted in the literature on the management of the BCLME sections of the South African coast include the following:

- the centralist approach of the state and the lack of devolution of power;
- the way in which the Black Economic Empowerment transformation agenda has shaped access to resources and led to the entrenchment of class relations;
- the failure to ensure the functioning on the Fisheries Advisory Committee as originally intended in the MLRA and the subsequent lack of formal structures for representation and participation in decision-making;
- the selection of an individual approach as a policy mechanism to allocate fishing rights, in particular the individual quota system;
- the professed commitment to co-management but failure of this system; and
- the faulty definition of the ‘subsistence’ and ‘commercial’ fisheries sectors.

TABLE 3-27. Description of power structures information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Power structures	NGO reports, community pamphlets, academic documents Note: Academic documents & NGO reports do not cover all fishing communities	Fishing community	Schultz, O. 2011. South Africa Fisheries Policy: Mere Window Dressing. SAMUDRA Report No. 59, online at: http://icsf.net/icsf2006/jspFiles/icsfMain/

3.7.2 POLICIES SHAPING DISTRIBUTION OF COSTS AND BENEFITS

This issue is concerned with the extent to which the constitutional imperatives of equity and redress, and the objectives of the MLRA have been interpreted and implemented. The challenges of dealing with conflicting overarching policies governing environmental/resource management and socio-economic development have

already been dealt with in this report (see Section 3.5.5), and failure to address these tensions frequently leads to small-scale fishers bearing a disproportionate burden in order to achieve conservation benefits. Some research on the impacts of these policy tensions has been undertaken, but is confined to specific coastal case sites (Schultz, 2010; Blair, 2011; Kirkby 2011; Mbatha, 2011).

TABLE 3-28. Description of policies shaping distribution of costs and benefits information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Policy shaping distribution of costs & benefits	NGO pamphlets, academic documents	National	Mbatha, P.N. 2011. Sharing benefits from coastal resources with rural communities in South Africa: the influence of institutional arrangements. MSocSc Thesis (unpublished), University of Cape Town.

3.7.3 TRANSPARENCY AND ACCOUNTABILITY

Transparency and accountability are vital for ensuring meaningful governance interactions between the government and stakeholders. Essentially, transparency refers to the ability of stakeholders to be fully informed about management and policy-related issues. Being equipped with the most comprehensive and detailed information available allows managers and resource-users to be held accountable for their decisions and actions. Several policy and management decisions taken regarding fishery sector policies, resource allocations and management measures have lacked meaningful input from resource users, and have limited transparency regarding criteria for decisions taken. In South Africa, these are relatively new preoccupations for fisheries management, where it appears that there is little transparency or accountability. One key challenge includes the lack of detailed information about small-scale fishing. Many stakeholders ask, 'What are decisions being based on, if there is such a dearth of information?' Another key challenge to transparency and accountability relates to the relationship between the industrial and small-scale fishing sectors and limited interaction between these sectors and the state. A recent example is the confusion among stakeholders regarding the fundamental management decision to distinguish between the 'near shore' and 'offshore' WCRL sectors, and the associated 80/20 TAC

split (WCRL Data Management Workshop – 4/11/11). The stakes are extremely high with regard to the near shore/offshore disaggregation, yet there is little clarity regarding the justification for this distinction. Another example that suggests a need for greater transparency and accountability in South African fisheries management is the current stage of the small-scale fishing policy process. While the early stages of the policy process were characterised by significant levels of participation by fishers and their representatives, the final stages of the policy process have become increasingly opaque. Lack of clear lines of accountability with regard to the finalisation of this policy process creates uncertainty and tension amongst all stakeholders with an interest in the outcome of this process.

Efforts to enhance transparency and accountability in governance processes have led to initiatives to establish and implement co-management arrangements, through for example, the fishery sector working groups and co-management initiatives at selected sites. However, with respect to co-management initiatives within coastal communities in the BCC, there has been limited success largely owing to institutional shortcomings and lack of clarity regarding rights to resources.

TABLE 3-29. Description of transparency and accountability information

HUMAN DIMENSION	AVAILABILITY	SCALE	EXAMPLE
Transparency & Accountability	Academic documents	National	Hauck, M and Sowman, M. 2003. (eds). 'Co-management of Coastal and Fisheries Resources in South Africa: Policy and Legislative Framework', in Hauck, M and M Sowman (eds.), <i>Waves of Change: Coastal and Fisheries Co-Management in South Africa</i> , Cape Town: University of Cape Town Press.

3.8 CONCLUSION

Based on this review of available information, it is clear that there is a considerable amount of information on certain aspects of the many human dimensions listed in the framework in Table 2-1. However, there is a dearth of up-to-date national data on the socio-economic and Institutional Dimensions of the small-scale fishery sector in South Africa. Socio-economic data gathered for coastal subsistence fishers within the BCC region that was obtained through the SFTG (2000) process were limited to subsistence fishers, and are now outdated. Non-fisheries dependent data such as those obtained from the 2001 Census are also outdated and are not currently available at the fishing community level (Sowman et al., 2011b). However, the Census data can provide a useful overview of basic socio-economic indicators such as poverty status at ward and enumeration level in coastal towns within the BCC region. Thus, analysis of the recent Census 2011 data for selected human dimensions is recommended as soon as the data become available. However, it needs to be noted that as this data is only gathered once every 10 years it soon becomes outdated. Information contained in the IDPs is usually based on the most recent census and is thus soon outdated as well. Furthermore, the scale at which the information is presented in the IDPs does not provide clarity on socio-economic conditions for specific fisher communities within the municipal area. Specific government departments can provide more updated information on selected human dimensions such as education levels or HIV/AIDS infection rates for instance, and at a town/settlement/community level. However, this is not consistent across the different departments. As mentioned in this report however, DAFF holds considerable socio-economic data linked to the existing small-scale rights' holders and interim relief permit holders that could provide useful additional information on selected socio-economic dimensions of small-scale fishers along the BCC coastal region. Analysis and dissemination of this information is thus urgently required.

Academic and NGO papers and reports tend to provide more in-depth information on particular human dimensions for a specific geographic area or coastal community. While this can enhance understanding of the social, cultural, economic or political context of a particular fishing community, and thus contribute to improved

management decisions, the site-specific information cannot easily be extrapolated to other coastal contexts. Furthermore, the type of data collected at these local sites is context-specific; is likely to be informed by the objectives of a particular research project, and would thus not be consistent across all BCC coastal fishing communities. Consequently, the development of a small-scale fisheries socio-economic information and management system (IMS) (see Sowman et al., 2011b for developments in this regard) would be one way of ensuring that relevant socio-economic data were collected and analysed on an ongoing basis. However, for this information to be of any value to management, it would need to be analysed and communicated to relevant stakeholders including fishers, coastal and fisheries managers and scientists on a regular basis. Finally, a comprehensive bibliography of all available grey and published literature considered relevant to the human dimensions of small-scale fisheries in South Africa is presented at the end of this report.

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4 BASELINE REPORT: NAMIBIA

Dave Russell

4.1 INTRODUCTION

The rationale for and definition of an Ecosystem Approach to Fisheries (EAF) "... is to plan, develop and manage fisheries in a manner that addresses the multiplicity of societal needs and desires, without jeopardizing the options of future generations to benefit from the full range of goods and services provided by marine ecosystems". FAO guidelines further state that "an ecosystem approach to fisheries strives to balance diverse societal objectives by taking account of the knowledge and uncertainties about biotic, abiotic and human components of ecosystems and their interactions and applying an integrated approach to fisheries within ecologically meaningful boundaries" (FAO, 2003).

More recently, FAO has produced a technical paper (De Young et al., 2008) on the "Human Dimensions of the Ecosystem Approach to Fisheries - An Overview of Context, Tools and Methods", and there are technical guidelines on "the Human Dimensions of EAF" (FAO, 2009). However, incorporation of the human dimensions of EAF and application in practice is still a challenge in many respects.

Countries within the Benguela Current Living Marine Ecosystem (BCLME) region, South Africa, Namibia and Angola, have committed to moving towards an ecosystems approach to fisheries management. During phase 1 of the BCLME programme, significant information was gathered and analyses undertaken that has enhanced understanding and management of these complex ecosystems (Cochrane et al., 2007). Ecological risk assessments for selected fisheries were undertaken in Namibia, South Africa and to some extent in Angola, which considered management measures that reflect a more holistic and ecosystems-orientated approach to fisheries management.

The follow-up phase to the BCLME programme known as the Benguela Current Commission (BCC) has a mandate from the three countries to promote integrated development, sustainable management and protection of the environment using an ecosystem approach to ocean governance. It focusses on the management of shared fish stocks, environmental monitoring and early warning, biodiversity and ecosystem health, social economics and governance. It also strives to keep training and capacity building at the forefront of its agenda.

THE BCC/FAO project on Strengthening the Human dimension of an Ecosystem Approach to fisheries

management in the BCC Region aims to help increase the understanding and incorporation of human dimensions into fisheries advice and management in the Benguela Current Commission region. This project is co-ordinated through the Namibia Nature Foundation, and in Namibia a workshop was held with relevant stakeholders involved with commercial industrial fisheries, including representatives of fishers, government and non-government organisations, and fisheries managers during June 2011 in Walvis Bay.

Participants at the workshop considered the results of an earlier workshop in April 2011 involving regional experts, and helped to refine that framework of human dimensions of EAF in the Namibian context. Additional research needs were also identified. More structured data gathering, including a relevant time series, could thereby inform fisheries management decisions.

The refined framework (Table 2-1) serves as the foundation on which we have structured this baseline report on the human dimensions of EAF for Namibia. It is a first step towards incorporating good "Human Dimension" information in the fisheries management decision-making process.

WORKSHOP RESULTS

A key result of the June 2011 Human Dimensions EAF Workshop in Namibia was the agreement of participating stakeholders that specific research on the human dimensions of fisheries in Namibia will be essential to facilitate the successful integration of the human dimension into EAF management. During the workshop, participants suggested the following initial steps, which were further developed at the Namibia Human Dimensions Core Group meeting the following day. No explicit prioritisation of the following data research list was undertaken:

INSTITUTIONAL

- Policies/legal framework: a full scoping exercise of all key organisations involved in the development of Namibia's fisheries and aquaculture resources would help promote future strategic development. This stakeholder research should sketch the bigger picture, providing an overview of the fisheries related laws and policies of a range of government departments, and their linkages.

- Policies: studies on harmonising the policies of different institutions in Namibia are needed. The BCLME SAP-IMP project will study this on a regional basis.
- Community institutions: an initial scoping exercise to identify all the relevant community organisations should be undertaken. Thereafter, communication with these organisations, in conjunction with the Ministry of Fisheries and Marine Resources, would be required to gain a better understanding of the needs of the fishing industry community. This would provide a foundation to better address community needs in the future.
- Capacity building: More research collaboration and identification of funding sources. Need to enhance local capacity, using University of Namibia (UNAM), Polytechnic, and other local institutions to build capacity for research. Where outside collaborators (e.g. Canada) can provide support, strategically work with these organisations to enhance local capacity. (MFMR have a Memorandum of Understanding with UNAM and Iceland on issues such as value addition etc.).

SOCIAL

- Gender/age: assess the spread, particularly covering directly employed and to a lesser extent, indirectly employed. Requires new baseline research, differentiating between land and sea based jobs, and analysing gender and age to assess current impacts and future trends.
- Health: understand occupational health issues, this will require new baseline research.
- Migration: Undertake a study to understand the rate of rural migration to the coast and reasons and implications, both qualitative and quantitative. Consider National Planning Commission (2011) data and others.
- Poverty: need to highlight poverty levels per employment category (e.g. full time, part-time, seasonal) in the fishing industry.
- Food Security: research quantity and prices, demand for fish, availability, and people's perceptions of fish. Undertake a detailed fish consumption survey working with the Namibia Fish Consumption Promotion Trust, including retailers and distributors throughout the country.
- Namibianisation: There is an ongoing need for research on the Government's ability to continue to achieve Namibianisation within the Namibian fishing industry, in terms of how it improves the

quality of life of Namibians, and their ability to determine their own destiny through the Namibian fishing industry.

ECONOMICS

- Alternative economic opportunities: undertake a study on secondary processing value addition opportunities for the fisheries sector in Namibia.
- Distribution of benefits and risks: research flows and the distribution patterns of the fishing industry benefits, both directly and indirectly to the Namibian economy.
- Cost of production: assess industry vulnerability to economic shocks due to external factors and develop strategic pathways to reduce risks.
- Access to credit: assess who needs access to credit. Talk to banking institutions to assess credit requirements and find out how successful fishing industry stakeholders have been in accessing credit. Through banking institutions, identify the mechanisms needed to improve credit availability to stakeholders.
- Crosscutting issue: assess the fishing capacity/over capacity of vessels in the Namibian fishing industry. While this has economic implications for companies, it also overlaps with the human and ecological dimensions of EAF.

POLITICAL

- An overview and analysis of support industries and services, and their potential is required. In terms of support services, assess what percentage are Namibian and the percentage that are not.

SUMMARY

- Participants recommended the collection and analysis of information on key social and economic elements of the fisheries industry, within the wider context of the national and Benguela Current Commission (BCC) fisheries sector. This would allow more informed decision-making related to fisheries management in the region. Issues proposed for an analysis included:
 - » Employment sustainability
 - » Transparency
 - » Compliance with regulations
 - » Payment of levies
 - » Collaboration with institutions and involvement of relevant stakeholders in planning and decision-making processes relevant to EAF
 - » Training and capacity building.

- The workshop participants also recommended a Holistic SWOT analysis of the Namibian fisheries sector, using the five categories outlined in the framework on the human dimensions of an EAF.

WORKSHOP PARTICIPANTS

When working on the human dimension of EAF, the emphasis is on the incorporation of an interdisciplinary mix of stakeholders so that broader representation can provide data and advice.

Attendees to the June 2011 human dimensions workshop in Walvis Bay included the following:

- the BCC Secretariat
- BCLME SAP IMP Project who co-ordinate financing of BCC projects
- Regional Human Dimensions EAF Project Co-ordinator and Namibia Project Co-ordinator, both operating under the Namibia Nature Foundation
- Municipality of Walvis Bay
- Confederation of Namibian Fishing Associations, represented by:
 - » the Midwater Trawl Association (Horse Mackerel)
 - » Namibia Mariculture Association
 - » Namibian Hake Association
 - » Namibian Large Pelagic and Hake Longlining Association
 - » Monk and Sole Association
- Seal Products Sector
- Ministry of Fisheries and Marine Resources:
 - » Policy, Planning & Economics Directorate
 - » National Marine Information Research Centre (NatMIRC) scientists
 - » Fisheries Compliance Inspectorate
 - » AIDS Focal Representative
- Labour Resources and Research Institute (LARRI)
- NFI, NASAWU & NAFAU Unions, Walvis Bay
- Customs & Excise, Ministry of Finance
- the Namibia Housing Action Group
- Marine Advisory Council representation.

Invited stakeholders who were not able to attend included:

- Pelagic Fishing Association (pilchards)
- The linefish sector

- Social scientists from the Multidisciplinary Research Centre
- University of Namibia
- Namibia Fish Consumption Promotion Trust (NFCPT)
- Central Bureau of Statistics, National Planning Commission
- Ministry of Trade and Industry
- The Erongo Regional Council
- Fisheries Observer Agency
- Ministry of Health and Social Services
- Financial institutions.

NOTE: Some of the above were able to contribute to this report after the workshop.

Additional organisations that contributed to this report included:

- Namibia Training Authority Fishing and Maritime Industry Skills Committee
- Walvis Bay Child and Family Centre
- Walvis Bay Multi-Purpose Centre
- Namibia Business Coalition on AIDS (NABCOA)
- Central Bureau of Statistics, National Planning Commission.

A Namibian Core Group was formed to drive the fishing industry human dimensions process forward. The Core Group comprises:

- Benguela Current Commission
- Ministry of Fisheries and Marine Resources, specifically representatives from the Directorate of Policy, Planning, and Economics, based at Windhoek Head Office, as well as fisheries scientist representation from NatMIRC, Swakopmund
- Fishing industry representative on behalf of the Namibian Confederation of Fishing Associations
- A co-ordinating consultant
- Assistance from other stakeholders as required.

4.2 INSTITUTIONAL DIMENSION

4.2.1 POLICIES/LEGAL FRAMEWORK

Namibia's Marine Resources Policy: Towards Responsible Development and Management of the Marine Resources Sector, published by the Ministry of Fisheries and Marine Resources in August 2004, is the best introduction to

Namibia's fisheries policies and legal framework. This is a refinement of the original December 1991 document which was commonly known as the fisheries "White Paper" which set out to: rebuild Namibia's plundered fish stocks (pre-independence); establish an effective fisheries monitoring, control and surveillance system; and establish a viable national fishing and processing industry with maximum Namibianisation of jobs and empowerment of previously-excluded people.

The 2004 policy document is a comprehensive overview covering: resource management detailing each commercial fishery; development of the fisheries sector covering the role of foreign enterprises; state participation and support, and the rights based management system. The fisheries legal framework under the Marine Resources Act No. 27 of 2000 includes the following:

- monitoring, control and surveillance;
- principles such as management based on optimum sustainable yield;
- compliance with flag state obligations;
- preference given to ventures which are beneficially controlled by Namibian citizens;
- equitable involvement of women in the fisheries sector;
- applying the precautionary approach to fisheries management;
- broad participation of Namibians and equitable access to the resource; and
- the resource shall be self-sustaining and not supported by public sector subsidies.

The overall objective of the policy includes developing responsible industries to assure lasting contributions to the country's economy, as detailed in Vision 2030 and national development plans. Strategies include maintaining an appropriate legislative, institutional and administrative framework; conservation and responsible management of the resource; support for domestic catching, processing, and marketing; and enhanced participation of Namibians in all aspects of the marine resources sector.

The international framework includes compliance with the following:

- the 1982 UN Convention on the Law of the Sea relating to the Conservation and Management of Highly Migratory Fish Stocks;
- the FAO Compliance Agreement relating to fishing vessels on the high seas;
- the International Commission for the Conservation of Atlantic Tunas (ICCAT);

- the Convention on the Conservation of Antarctic Living Marine Resources (CCAMLR);
- the FAO Code of Conduct for Responsible Fisheries;
- the SADC Regional Protocol on Fisheries.

The texts of international agreements to which Namibia is a party are published in the Government Gazette, and as such are deemed to have legal force under the Namibian Marine Resources Act (Ministry of Fisheries and Marine Resources, August 2004).

The Namibian Aquaculture Policy 2001 laid the foundation for the Aquaculture Act 2002, and the Aquaculture (Licensing) Regulations 2003, which further specify and outline the application and conduct of aquaculture activities. The purpose of the policy is to promote sustainable aquaculture; to manage, protect and conserve marine and inland aquatic ecosystems; and to benefit the promotion and operation of aquaculture projects (Ministry of Fisheries and Marine Resources, 2001).

For both the marine and aquaculture sectors, the Minister of Fisheries is guided by the Marine and Aquaculture Advisory Councils, comprising industry and associated sector representatives. In determining policies, the Minister must also consult with other relevant Government Ministries, as well as other stakeholders as provided for in the Acts.

Useful policy documents and regulation guidelines can be obtained from the Namibia Ministry of Fisheries and Marine Resources website: www.mfmr.gov.na. Additional perspective is available in a review of aquaculture policy and institutional capacity in the BCLME region, with recommended regional policy options (Enviro-Fish Africa, 1 February 2005b).

The Ministry of Fisheries and Marine Resources deals with a number of key government ministries and their relevant Acts of Parliament in developing the fisheries and aquaculture sectors. These include the following:

- the National Planning Commission in terms of development strategies and access to statistics through the Central Bureau of Statistics;
- the Ministry of Trade and Industry on trade promotion issues, negotiation of international trade agreements such as the European Economic Partnership Agreement, as well as the Namibian Standards Institute on seafood safety regulation, particularly for export;
- the Ministry of Finance, particularly in terms of Customs and Excise, and access to potential tax benefits that develop the industry;

- the Ministry of Works and Transport, specifically the Directorate of Maritime Affairs in terms of vessel registration, and compliance by officers and vessel crew to seafarers certification qualifications through the International Maritime Organisation (Auene, Pinehas, personal communication November 2011), as well as funding infrastructure projects such as inland aquaculture farms on behalf of Government to promote rural development and food security;
- the Ministry of Education and its subsidiary, the Namibian Training Authority with regards training;
- the Ministry of Agriculture, Water and Forestry, specifically the Department of Water Affairs when it comes to inland aquaculture development;
- the Ministry of Environment and Tourism where specific environmental impact assessment approvals are needed;
- the Ministry of Foreign Affairs where it relates to the promotion of trade of Namibian seafood products;
- Ministry of Health and Social Services on health issues;
- Ministry of Home Affairs and Immigration where permissions are required for foreigners employed in Namibian fishing companies, and Namibianisation of some of those positions;
- Ministry of Labour and Social Welfare on labour issues;
- Ministry of Mines and Energy as it applies to marine mining and its potential impact on fisheries resources; and
- Ministry of Youth National Service, Sport and Culture, as this ministry has funding to support aquaculture development.

Moreover, there are links to Regional Councils where it relates to regional development; Municipalities regarding local development; labour unions; the Labour Resources and Research Institute, the Benguela Current Commission on issues related to the Benguela ecosystem, and a range of NGOs including the Namibia Nature Foundation.

On the international front, the Fisheries and Aquaculture Division of the Food and Agriculture Organization (FAO), based in Rome, is actively involved with Namibia's fisheries and aquaculture development.

An analysis of revenue-raising instruments for the important commercial fisheries in the BCLME countries has been undertaken (Enviro-Fish Africa, 2007c). A BCLME regional comparative legal analysis and report on law reform (Enviro-Fish Africa, 2006a) has also been

undertaken. At a continental level, an FAO report has been written on legislating for an ecosystem approach to fisheries, reviewing trends and options in Africa (Skonhofs, 2010).

The above-mentioned links are not well documented however. A full scoping exercise of all key organisations involved in the development of Namibia's fisheries and aquaculture resources would help in promoting future strategic development.

4.2.2 ACCESS/USE RIGHT

In Namibia, commercial fishing can only be undertaken by companies who have obtained a fishing concession granting them permission to harvest a specific fish species. Fishing concessions are generally granted for seven to fifteen years, depending on investment into the industry by the concessionaire. These concessions are then reviewed, and depending on performance, or the lack thereof, are either extended or terminated. Approximately every 10 years, the Ministry of Fisheries and Marine Resources has advertised for the public to apply for such rights. These advertisements are officially gazetted, and then placed in local newspapers. The deadline for the most recent rights' applications was September 2010, and the successful applicants were notified in December 2011. The Ministry of Fisheries and Marine Resources evaluated 1,154 applications. 156 companies were successful, but owing to limited fish resources available, they are required to form joint ventures, whereby 59 fishing rights to a number of species were allocated, including Demersal Hake, Horse Mackerel, Large Pelagic, Demersal Monk, Seals, Crab, Rock Lobster, Line Fish, Seaweed, and Guano (Windhoek Observer, 8 December 2011).

Fish quotas are allocated annually based on the total allowable catch (TAC) for that year. Stock assessment scientists from the Ministry of Fisheries and Marine Resources undertake research and provide recommendations to the Minister on the TAC. Before the TAC is set, the Marine Resources Advisory Committee, comprising key representatives of the fishing industry, as well as independent representatives with a knowledge of the fishing industry, also advise the Minister on socio-economic considerations.

A policy statement on guidelines for the granting of rights to harvest marine resources and the allocation of fishing quotas is available (Ministry of Fisheries and Marine Resources, July 2009). So too are technical details on fees and levies associated with each concession available on the Ministry of Fisheries and Marine Resources website www.mfmr.gov.na. This includes quota fees (paid by companies directly to the Ministry of Fisheries and Marine Resources Head Office for inclusion in the Government's Consolidated Fund); bycatch levies (penalty levies to stop

targeting of bycatch fish); fund levies (paid to the coastal Regional Ministry of Fisheries and Marine Resources offices for funding of research and administration by the Ministry of Fisheries and Marine Resources); licenses for vessels to be authorized to go to sea to catch fish; and conversion factors (official figures to convert processed fish such as headed and gutted product processed at sea, back into whole round equivalents for calculating catch weights and levies). These figures were primarily established shortly after Namibia's independence and are seldom updated – only as the need arises.

A review of the distributive aspects of Namibia's fishing policy has been undertaken (Manning, 2001). A report was also compiled on the biological, social, and economic impacts of rights allocations in the BCLME region (Enviro-Fish Africa, 2006f).

There is an ongoing need for capacity development in joint venture agreements. This will facilitate economic empowerment of previously disadvantaged Namibian citizens.

4.2.3 PARTICIPATION

The Marine Resources Advisory Council which is mandated under the Act to advise on the TAC, includes industry representatives. There are strong fishery-specific associations and a confederation of associations (Staples, 2010b). Information regarding the participation of fisheries stakeholders, including the fishing industry, the NGO sector and others, is not easily attainable. Stakeholder participation in Environmental Risk Assessment (ERA) workshops and ERA review workshops is reflected in workshop documents.

Skippers' knowledge should be included in fisheries stock assessments, and fish workers should be given the opportunity to be heard when it comes to policy development. The case study of a fishing industry operator, below, illustrates this point.

CASE STUDY: Fishing industry operator in Walvis Bay, catching linefish and monkfish

Linefish: Targeting Snoek as a commercial species was a conservation requirement put in place by the Ministry of Fisheries and Marine Resources. This replaced traditional catches of Kob and Steenbras, which had come under pressure due to overfishing.

The linefish concessionaire operates a European Union approved processing factory and also sells salted Snoek to markets in Reunion. Snoek season spans the months of October to June. Operations are suspended for 4 months of the year, when fishers and factory workers are not paid.

Recently however, the Snoek market, which is culturally based, is also diminishing as a commercial activity. The market is now becoming more Westernised, with consumers in the African market increasingly opting for other fish species and types of food. This makes this product particularly price sensitive, as consumers of this product are generally not wealthy. Meanwhile, catching and production costs are high.

Because of reduced returns for Snoek fisheries, the operator now hopes to commercially fish for Kob and Steenbras once again, which he believes to be plentiful. However, NatMIRC Ministry of Fisheries scientific section responsible for linefish, insists that the fish is not available in commercial quantities.

The local fisherman says Kob/Steenbras scientific stock assessment survey is based merely on recreational angler's catches, and does not pick up what the industry sees with commercial linefish vessels. He claims if industry were allowed to explore the stocks' commercial potential using a linefish vessel, they could provide employment for fishermen and factory workers in the periods when operations are currently closed, namely over four months of the year.

He also has a concern regarding the catches of monkfish, which is sold into Europe. He prefers to catch only larger sized fish, which means that he does not catch his full quota and is therefore punishable by the Ministry of Fisheries, in that his quota can be reduced or he may be charged the full levy. The smaller sized fish is sold by other operators, to companies who make baby food.

This case study highlights the need to holistically consider socio-economic issues and the end-market of the species in question. By doing so, ultimately better resource management decisions will be encouraged.

The issues raised by this case study clearly reflect differing views regarding stock status and TAC, between scientists and fishers/industry, as well as trade and marketing (post-harvest). The consequences of all these issues such as reduced prices, seasonality of employment and higher costs of production, are all covered in the human dimensions framework, and serve to emphasise that fisheries management is no longer just about managing fisheries based primarily on scientific knowledge, but needs to be considered within the broader context of an ecosystem approach to fisheries.

The problem is that to date this information remains mostly informal, and by formalising it, an additional dimension becomes available to facilitate fisheries management.

Consolidation of fishing sectors and employees around structures that enhance communication, consultation and competitiveness is needed.

4.2.4 COMMUNITY INSTITUTIONS

The needs of fishing communities are diverse, and far from being fully understood in Namibia. Consequently, a shift in emphasis towards an ecosystem approach to fisheries, where understanding the “human dimension” is a priority, offers a real opportunity to understand the needs of the fishing industry community.

The relationship between institutions that manage access to and use of fisheries resources and the organisations that represent community and civil society stakeholder interests, needs to be understood. The Namibian fishing industry is primarily industrially based and as such, the majority of Namibians working in the fishing industry are employed by companies, rather than operating in their own right. Some of these companies, particularly in the hake sector, employ as many as 1,000 people, with the majority of positions in onshore processing factories.

From a Government/Industry perspective, the Ministry of Fisheries and Marine Resources relies on communication with the Confederation of Namibian Fishing Associations. This industry body is further broken down into sector associations covering: Hake Association; Midwater Trawling Association; Monk and Sole Association; Large Pelagic and Hake Longlining Association; Pelagic Fishing Association; Deepwater Fishing Association; Rock Lobster Fishing Association, and Mariculture Association.

To communicate with other sectors such as Line Fish, Deepsea Crab, Seals and Guano, one needs to approach individual companies holding concessions in these sectors. The Ministry of Fisheries and Marine Resources recognises the fishing associations as the formal voice for these individual fishing sectors, with the Confederation

of Namibian Fishing Associations providing the national voice on commercial fishing industry issues.

There is no association of fishing industry workers. To gain an understanding of worker needs, one has to approach worker representatives within fishing companies. Fishing industry unions also have an understanding of worker issues.

Institutions with an understanding of community needs include Regional Councils such as those of the Erongo and Karas Regions (which include the fishing towns of Walvis Bay and Lüderitz), Municipalities, the Ministry of Health and Social Services, and other scattered organisations operating in Walvis Bay and Lüderitz. These include the National Housing Action Group, the Shack Dwellers Federation, Walvis Bay Multi-Purpose Centre, and the Walvis Bay Child and Family Centre.

All the above regional and local institutions have links through government, but they tend not to have formal operational links with the fishing industry.

Relevant research publications are limited but include a socio-economic baseline survey of coastal communities in the BCLME region – Namibia (Fielding, et al., 2006).

An initial scoping exercise is required to identify all the relevant community organisation, and then to speak to them in conjunction with the Ministry of Fisheries and Marine Resources. This will foster a better understanding of the needs of the fishing industry community, and provide a foundation to better address community needs in the future.

4.2.5 POLICY INTERACTIONS

The Ministry of Fisheries and Marine Resources has clearly written policies on fisheries and aquaculture (Ministry of Fisheries and Marine Resources, 2001, 2004, 2009). However, how these interrelate with other Government ministries is not always clear, and requires a scoping report.

In 2012, the BCLME SAP IMP project in Namibia will undertake a study on the harmonisation of different policies between Government ministries across the BCLME region. This will include meeting with Ministries such as Fisheries and Marine Resources, Mines and Energy, Works and Transport and so on, to identify their priorities, areas of commonality, and how these policies can be harmonised. Some international issues will also be considered, for example, Namibia and Angola are looking at sea monitoring, control and surveillance along their common border to monitor horse mackerel midwater trawling activities. BCLME SAP IMP will also look at the potential of harmonising Namibian and South African net mesh sizes for hake fishing, as well as regulations on

fishing depth restrictions to protect juvenile stocks, as hake is known to cross the border between both countries (Botes, Frikkie, National Co-ordinator, BCLME SAP-IMP Project, Namibia personal communication August 2011). This will be an ongoing process, as the subtleties of interactions of different policies sometimes only become known when specific issues are addressed.

A report on the harmonisation of socio-economic policies and legal provisions for effective implementation of the BCLME Programme was undertaken in 2007 (Enviro-Fish Africa, 2007b).

As well as the BCLME 2012 regional harmonisation of policies project, there will also be the opportunity to undertake a scoping exercise in Namibia looking at the interaction of different policies in Namibia, talking to the Ministry of Fisheries and Marine Resources, industry, related Government ministries and other stakeholders.

4.2.6 INSTITUTIONAL LINKAGES

Which institutions have links to fisheries? This has been answered to some extent in the “Policies/legal framework” section above (see section 4.2.1). Many institutions have fisheries links, however, developments often occur autonomously and a better understanding of current organisational links is required. For example, an environmental impact assessment of marine phosphate mining off the coast of Namibia is underway. The proponent is Namibian Marine Phosphate (Pty) Ltd., a majority Australian owned mining company. If this initiative goes ahead, it plans to be in full production by the third year of operation. It proposes mining 5.5 million tonnes of sea bottom phosphate substrate annually, in depths of just over 200 metres of water. The Namibian fisheries sector is very concerned about the potential environmental impacts this may have on the fishing industry, particularly as other mining companies have applied to do the same.

The Ministry of Mines and Energy has in the past issued Exclusive Prospecting Licenses (EPLs) without consulting the Ministry of Fisheries and Marine Resources. MFMR scientists based at the National Marine Information and Research Centre (NatMIRC), Swakopmund, stated that it would have been good to have the opportunity to provide input regarding sampling of the sea bottom by the mining company, so that a better understanding of future mining environmental impacts could have been obtained (Van der Plas, Anja, MFMR, personal communication, November, 2011).

There is also a need for industry, all government institutions related to this project, and the Benguela Current Commission (BCC), to assess the implications of this mining project together. The MFMR and the

BCC both have links to respected international research institutions and universities, and their input is valuable in assessing the potential implications of a marine mining project as significant as this, which has not occurred elsewhere in the world. A three-year moratorium on deep-sea bulk mining was instituted late in 2013, and an Inter-Ministerial Technical Committee put in place to drive research.

Developing Institutional linkages is very important, given that each institution has its own strengths. The resulting synergy will promote more balanced and effective development of the fisheries sector. This also requires networking.

From an overarching institutional perspective at a regional level, a report has been written on institutional arrangements for implementing an ecosystem approach to fisheries in Benguela Current Commission countries (Staples, 2010a).

A scoping exercise is required to assess linkages, starting with the Ministry of Fisheries and Marine Resources and broadening out to the fishing industry, government ministries, regional and local government, NGOs and other stakeholders.

4.2.7 ENFORCEMENT AND COMPLIANCE

The Ministry of Fisheries and Marine Resources, the Fisheries Observer Agency, and the Namibian Standards Institution (NSI) are the main enforcement and compliance agencies in the fisheries sector.

While its head office is in Windhoek, the MFMR has inspectorate offices in Namibian port towns. Operating under the Marine Resources Act (Act 27 of 2000), they enforce regulations relating to the exploitation of marine resources, no. 241 of 2001 and their amendments. A key success of Namibian fisheries enforcement and compliance is that all fish must be landed in the ports of Walvis Bay and Lüderitz. While fish may be transhipped within harbour limits, where this is monitored by MFMR Fisheries Inspectors, no fish may be transhipped at sea. Fisheries patrol vessels and aircraft undertake monitoring, control and surveillance to ensure this is adhered to.

The objective of the Fisheries Observer Agency (FOA) (website www.foa.com.na) is to complement MFMR monitoring, control, surveillance and scientific activities by placing fisheries observers on board fishing vessels. The observers' tasks include monitoring fishing operations to ensure that activities on vessels comply with relevant legislation, as well as the collection of biological and scientific data on the marine species within the Namibia Exclusive Economic Zone (EEZ). The FOA could be

described as the ‘watchdog’ of the MFMR, through the presence of FOA personnel on board vessels.

Export standards can influence access to foreign markets (e.g. EU regulations, eco-labelling). The Namibian Standards Institution (NSI) is part of the Ministry of Trade and Industry, and operates under the Standards Act, Act no. 18 of 2005, to provide for the promotion, regulation and maintenance of standardisation relating to the quality of commodities. The website for the NSI is www.nsi.com.na. The objectives of the NSI include promoting standardisation and quality assurance in the fishing industry, with the aim of improving product quality, industrial efficiency and productivity, and to promote trade so as to achieve optimum benefits for Namibia.

With its head office at the Ministry of Trade and Industry in Windhoek, NSI Fisheries Inspectors are based in the port towns of Walvis Bay and Lüderitz, and ensure seafood safety in fish factories and on board vessels, complying with European Union (EU) seafood safety regulations. These regulations follow what is known as hazard analysis critical control point procedures (HACCP), which are recognised internationally.

While seafood safety compliance exists in terms of achieving access to the EU for Namibian fisheries products, the fishing industry’s main export market, EU compliance has yet to be achieved for aquaculture shellfish products. A testing laboratory has now been established in Walvis Bay, but needs EU accreditation. This requires meeting information and compliance requirements of the relevant international body, through research and protocol implementation (Du Plessis, Henning, Chairman, Namibia Aquaculture Association, personal communication, June 2011).

There is a lack of capacity to control quality and make full use of data that has been collected, including that of fisheries observers, which hinders progress on research and management. Particularly with regards exports of seafood and aquaculture products and meeting market seafood safety requirements, necessary ongoing research and monitoring needs to be undertaken to ensure compliance with international regulations.

4.2.8 SOCIAL RESEARCH

To date much of the social research that has occurred in the Namibian fishing industry has related to the small-scale sector. An overview and analysis of social, economic and fisheries information to promote artisanal fisheries management in the Namibian BCLME region has been undertaken (Batty et al., 2004).

Based on past BCLME work, it has been agreed that there is an urgent need for greater cooperation and communication between social scientists and economists in fisheries research and management. Representatives of the social and economic sciences were invited to participate, but in general have not fully done so, possibly owing to differences in work methods and approaches (Cochrane et al., 2007). There is a need to involve social scientists within MFMR, and it makes sense to do this through the Directorate of Policy, Planning and Economics (PPE). For this reason PPE is a central member of the Namibia Core Group formed to drive the EAF human dimension process forward.

Questions such as the number of dependents per worker, the social responsibilities of fishing rights holders, and how much fish is being consumed by Namibians were identified by participants at the Namibia June 2011 workshop on human dimensions of EAF. These issues are addressed within the human dimensions framework of this report (Table 2-1).

The key research gap is that social scientists are currently not involved in research on the industrial fisheries sectors in Namibia. This has implications in terms of fisheries management strategies and priorities.

4.2.9 CAPACITY BUILDING

A new initiative is the Namibia Training Authority’s (NTA) establishment of the Fishing and Maritime Industry Skills Committee (ISC) in terms of the Vocational Education and Training Act, Act 1 of 2008. The ISC is to ensure that competency-based vocational education and training is developed, which will provide training based on the relevant and specific industry needs and priorities in the fishing sector.

An Occupational Mapping exercise has been undertaken to define all occupations in the fishing and maritime industry, any skills’ gaps, and the levels of skills required within each of those occupations (Russell and Wolf, 2012). From this map, the ISC will be able to work with the NTA to ensure that relevant training is developed in line with the needs and priorities of industry (Callie Jacobs, Chairperson of the Namibia Training Authority Fishing and Maritime ISC, personal communication, October 2011). Training standards will then be developed to promote adherence to individual job competencies, and these will be registered with the Namibian Qualifications Authority (NQA).

This is a popular employee and industry development, as the process whereby specific competencies are recognised and graded is internationally recognised. The foundations of career path development are laid as an employee builds up a range of competencies under this system.

Vocational training is based on the realities of real-life work, and holds the promise of better job prospects and quality of life for fishing communities. Future work will require development of systematic work-based curriculum standards; course training manuals through the NTA process, and complying with NQA accreditation requirements.

Within the MFMR, a critical challenge is retention of staff scientists, due to there often being better-paid jobs outside the Ministry. This can result in key skills gaps, and consequently both the Ministry and industry need to plan to have understudies for key jobs, where possible.

The Namibian Maritime and Fisheries Institute (NAMFI) based in Walvis Bay provides training for sea-going fishing industry employees. There is concern within the industry that the graduates of NAMFI courses do not always meet the competency standard required by industry, particularly in the case of positions such as ship engineers (Callie Jacobs, Chairperson of the Namibia Training Authority Fishing and Maritime ISC, personal communication, October 2011). Fishing companies currently do significant in-house training of their employees.

The Benguela Current Commission has a training module on fisheries management mismatches. NAMFI is responsible for a fisheries course with a 'training of trainers' course, so it can be institutionalised and rolled out in the future. People need to be made aware of these courses (Frikkie Botes, National Co-ordinator, BCLME SAP-IMP Project, Namibia personal communication, August 2011).

4.3 SOCIAL DIMENSION

4.3.1 GENDER, AGE

The following table (Table 4-1: Employment in the Namibian fishing sector by gender) summarises employment in the fisheries sector by gender (a more detailed breakdown is included in Namibia Appendix 1):

TABLE 4-1. Employment in the Namibian fishing sector by gender

	2008	2009	2010
Males Offshore	3,935	4,442	4,160
Males Onshore	2,800	4,411	4,449
Total Males	6,735	8,853	8,609
Females Offshore	17	41	42
Females Onshore	4,002	4,491	4,729
Total Females	4,019	4,532	4,771
Total	10,754	13,385	13,380

Fishing industry employment figures collated by the Ministry of Fisheries and Marine Resources do not show age structure. Fishing company records will be able to shed light on this.

Indicators for the port towns of Walvis Bay and Lüderitz, from the 2001 census, are shown in the tables below.

TABLE 4-2. Walvis Bay demographics

Population	
Total	16,293
Females	7,759
Males	8,534
Sex ratio: males per 100 females	110
Age profile	
Under 5 years	11%
5-14 years	16%
15-59 years	71%
60 + years	2%
Head of household gender	
Females	37%
Males	63%

Source: Central Bureau of Statistics, November 2003

Note: Walvis Bay was still under South African rule at this time, which may have had some impact on population size.

TABLE 4-3. Lüderitz demographics

Population	
Total	14,542
Females	6,312
Males	8,228
Sex ratio: males per 100 females	130
Age profile	
Under 5 years	10%
5-14 years	15%
15-59 years	71%
60 + years	3%
Head of household gender	
Females	43%
Males	57%

Source: Central Bureau of Statistics, June 2004.

The national census is held every ten years, the most recent in late 2011. The results will be published in the next couple of years.

In terms of indirect employment in the fishing industry, very little is known of the gender and age spread. New baseline research is required to assess current impacts and future trends.

4.3.2 SOCIAL COHESION

A range of ethnic, social and cultural groups is represented within the fishing community. The majority of middle to lower level staff is Oshivambo speaking from the far north of Namibia. Company owners comprise mainly Namibian, Spanish, Portuguese and South African nationals. Within their ethnic groups the fishing industry community appears to be close knit. However, at the Walvis Bay June 2011 Human Dimensions workshop, participants asked whether fishing encourages cohesion or promotes conflict. Baseline research would need to be undertaken to answer this question.

4.3.3 RELIGION, VALUES, BELIEFS, PERCEPTIONS AND ATTITUDES

The fisheries community comprises a range of religious groupings, mostly from a Christian background, which adds to cohesion in the group. So far, no religious tension has been noted. Little known research has been undertaken in the Namibian fishing industry to assess the impact of religion, values, beliefs, perceptions and attitudes.

Perceptions about fish in the diet however show cultural diversity. Herero people consider themselves very much a meat-eating people, and introducing them to eating fish involves promoting the health benefits of fish consumption. Namibians in the north of the country like fish as they catch them in perennial rivers and in the flooded oshanas. Some freshwater fish such as catfish are much more popular in the north west of the country than the north east, however, because they have been available in the north west for longer.

Kelsey Draper undertook an MA thesis on the political ecology of the hake trawl fishery in Walvis Bay (Draper, 2011).

Qualitative research is required to improve information dissemination and thereby promote informed attitudes and perceptions of the fishing industry, the ocean, fish, and fish consumption.

4.3.4 GOALS AND ASPIRATIONS

This social dimension provides an idea of how people regard benefits from the fishing industry, work, and quality of life issues. Stakeholders range from Namibian shareholders in fishing concession holding companies, shareholders in operational fishing/processing companies, and employees from top management down to processing factory floor workers.

New baseline research is needed.

4.3.5 LIVELIHOODS, PRACTICES, OPTIONS, STRATEGIES

As elsewhere in the world, members of the fishing community want to feed their families and have a decent quality of life. This gives rise to a strong sense of fairness in terms of what is acceptable as payment for a day's work. There needs to be balance between what the job offers, and what the job requires from workers.

With a high average number of 10 dependents per job (FAO, 2007), and based on 13,380 direct jobs produced by the fishing industry in 2010, the number of people benefiting from fisheries is 133,800.

Namibians employed in the marine sector originate from different parts of the country and frequently send money to their places of origin (home in remote areas) where money is then used for the development of their communities. In the Oshikoto, Oshana, Ohangwena, Omusati, Okavango and Caprivi regions, the income used for community development is in most cases earned outside the region (FAO, 2007).

More information is required on the nature of employment in terms of quality of job versus wages paid, as well as dependency ratios, both direct and indirect.

Once Namibian fishing industry jobs are clearly defined, as is starting to happen through the Fishing and Maritime Industry Skills Committee of the NTA, based on competencies required, this will be formally registered with the Namibian Qualifications Authority. Career paths for fishing industry workers will then be more effectively demarcated, enhancing their career options. Training organisations will also be formally registered and monitored, to uplift the quality of worker training.

Not enough is known about livelihoods, practices, options and strategies, so as a result it requires new baseline research.

4.3.6 HEALTH

The Global Competitiveness Report 2010-2011 ranks Namibia as low (116th of 142 countries) on the health sub-pillar, owing to high infant mortality rates and low life expectancy. Communicable diseases are a major cause of death (NAMPA, 7 September 2011). In addition, childhood malnutrition is high, at 30% countrywide, and up to 50% in the densely-populated central northern and north-eastern areas, where over half of the population lives (FAO, 2007).

Fishing communities are particularly vulnerable in terms of health. They live in port towns where communicable disease risks are high. The Namibian coast is characterised by a damp climate due to the environmental impact of the

Benguela current and many people live together in often cramped and damp living conditions. Add to the picture the frustrations of poverty, alcoholism, high HIV and TB infection rates, and a profile of a vulnerable community emerges.

The HIV/AIDS infection problem is among the greatest worries affecting the health status of the fishing community at the Namibian coast. Fishing company

clinics keep confidential statistics on HIV infection within the workplace, but no officially quantified information is available about the overall impact of HIV/Aids in the fishing sector. However, the impact on the Namibian workforce in general is of great concern (NAMPA, July 2011).

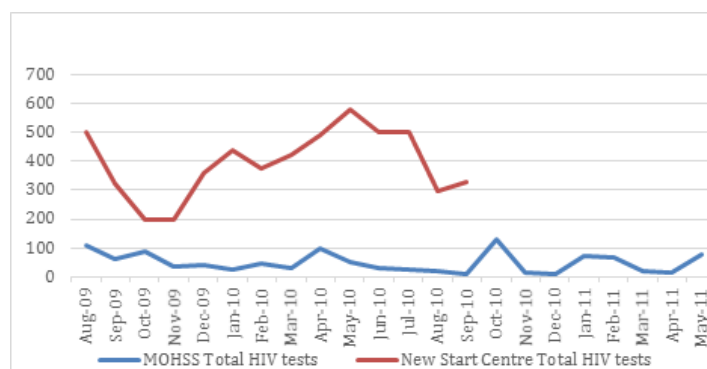


FIGURE 4-1. Number of people tested for HIV at MOHSS and New Start Centre

August 2009 – May 2011 *The New Start Centre in Kuisebmond closed down at the end of October 2010

The average number of people tested at the New Start Centre from August 2009 until its closure in October 2010 was 393/month. This far exceeds the average number of people tested at the MOHSS (48/month) over the same period. The number of people tested at MOHSS after the closure of the New Start Centre rises to only 51/month. This would appear to indicate that fewer people are undergoing HIV testing and this is a matter of real concern (Somses, D., Multi-Purpose Centre, Walvis Bay, personal communication August, 2011). Of the people tested for HIV, an average of 9,7% tested positive at the MOHSS facility and 9% at the New Start Centre. MOHSS Health Workers in Walvis Bay have tried to implement work based testing for HIV AIDS, but so far have not managed to generate support for this at a higher level within their Ministry.

Comprehensive health education is required in the fishing industry, including on Tuberculosis (TB), and should focus on behaviour. Seasonal work, which is common in the fishing industry, also presents problems as people sometimes resort to prostitution when they run out of money (Somses, D., Multi-Purpose Centre, Walvis Bay, personal communication, August, 2011).

Some Walvis Bay fishing companies have their own medical clinics at their processing factories, where a range of services are provided, including a medical nurse on site providing free medical treatment and anti-retroviral drugs.

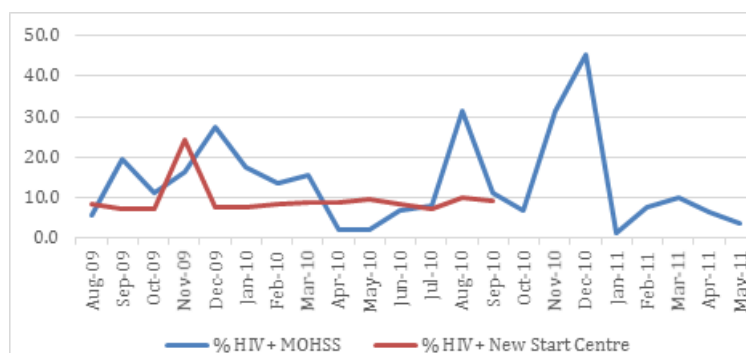


FIGURE 4-2. % HIV+ at MOHSS and New Start Centre August 2009 – May 2011

In June 2003, the Namibia Chamber of Commerce and Industry (NCCI) and the United Nations Programme on HIV and AIDS established the Namibia Business Coalition on AIDS (NABCOA) to mobilise the private sector to play a more significant role in fighting the spread of HIV and AIDS in the workplace. The Coalition meets regularly with the private sector in Walvis Bay, aiming to help companies understand the impact of this infection on labour.

At a 2011 meeting with the business community in Walvis Bay, the NABCOA Programme Manager, Peter van Wyk, expressed worry about the impact of HIV infections on the workforce, even within the broader Southern African Development Community (SADC), where it reduces the overall performance and productivity of businesses. HIV infection causes many affected employees to stay away from work, and also forces companies to spend significant amounts of money on health and awareness programmes, and on training and recruitment of new staff.

NABCOA has implemented policies and information forums to coordinate workplace responses. The policies include training for managers, on how to integrate HIV/AIDS and Tuberculosis (TB) responses into workplace programmes, and mobilising workers to take ownership of such programmes. Van Wyk explains that the workplace programmes help ensure that employees who are HIV-positive do not leave work due to incapacity, while also preventing unfair discrimination at the workplace

on the basis of an individual's HIV status (NAMPA, July 2011).

Another social community response group in Walvis Bay is the Walvis Bay Child and Family Centre, which gives assistance to marginalised people and those with disabilities. The Walvis Bay Child and Family Centre focuses on helping single mothers lacking marketable skills, as well as unemployed youths. The Centre trains women in clothes making and needlework. Unfortunately, the Centre's activities have had to be significantly reduced because the sponsor, Walvis Bay based Overberg Fishing Company, suffered financially after fish quota cuts. The Walvis Bay Child and Family Centre also ran an Alcohol Rehabilitation Centre, however, it had to close as there was no longer enough money to fund it. (Alcoholism is a major and continuing social problem countrywide in Namibia). The Child and Family Centre now raises funds through its own initiatives (Murangi, Elsa, Walvis Bay Child and Family Centre, personal communication, July 2011).

New baseline research on occupational health issues is required.

4.3.7 EDUCATION

In the Global Competitiveness Index 2010-2011 ranking on "education" Namibian enrolment rates remain low and the quality of the educational system remains poor, with Namibia ranked 127th of 142 countries (NAMPA, 7 September 2011).

From the 2001 census, the Walvis Bay literacy levels for youth 15+ in age was 98%, (Central Bureau of Statistics, November 2003) while the equivalent figure for Lüderitz was 97% (Central Bureau of Statistics, June 2004). These figures are misleading, however. Many employees in the fishing industry come just with a school education. One of the key challenges the fishing industry face is low literacy levels (Jacobs Calie, Chairperson, Namibia Training Authority Fishing and Maritime Industry Skills Committee, personal communication, November 2011).

The past Minister of Education, Dr Abraham Iyambo worked hard to develop a strategic plan for education development in Namibia, and to raise educational standards. Speaking at the National Assembly in April 2011 he revealed the challenges he faced. For example, of Namibia's 600,000+ school-going children, more than 400,000 had to study on an empty stomach. Malnutrition killed 6,000 children a year (NAMRIGHTS, 10 December, 2011).

At a higher education, more research collaboration and funding is needed. There is also a need to enhance local capacity, using the University of Namibia (UNAM), the

Polytechnic of Namibia, and other local institutions to build capacity for research. Where outside collaborators (e.g. Canada) can provide support, the industry should work strategically with these organisations to enhance local capacity (MFMR have a Memorandum of Understanding with UNAM and Iceland on issues such as value addition etc.).

From the fishing industry perspective, curriculum development in schools and at higher education level needs to be looked at to promote future development of the fishing industry. Vocational training is covered under "Capacity Building" in this report.

4.3.8 FOOD SECURITY

With its arid climate conditions and unreliable rainfall, Namibia is vulnerable to drought which in turn has adverse effects on the food security of the population.

Workers in the fishing sector rely on grains such as maize, mahangu (millet) and sorghum, in addition to consuming a large proportion of red meat in their diets. Meat is expensive, but considered important for "the good life". Namibians are traditionally cattle farmers and meat eaters. However, malnourishment is high amongst children, at 30% countrywide, and up to 50% in the densely-populated central northern and north-eastern areas, where over half of the population lives (FAO, 2007).

On average, the consumption of fish in the SADC region is about 12 kg/capita/year, while world fish consumption is currently 16.5 kg/capita/year (Hempel, and Russell, 2007). Fish is not traditionally considered a major component of diet, although it is accepted as healthy and promoted as such by the Namibian Fish Consumption Promotion Trust (NFCPT).

The NFCPT was established in 2001 by a Cabinet resolution in order to promote the consumption of fish throughout the country by selling fish at an affordable price to all people (as part of food security and health policy strategies), and to ensure that the promotion of fish consumption goes hand-in-hand with imparting skills on how to prepare different fish dishes. The MFMR is the main stakeholder in the Trust, and it has allocated Horse Mackerel fish quota, in order for the NFCPT to distribute fish countrywide.

Currently, the NFCPT has nine fish shops, namely:

- Swakopmund's Mondesa residential area (Erongo Region)
- Ondangwa and Ongwediva (Oshana Region)
- Rundu (Kavango Region)
- Keetmanshoop and Lüderitz (Karas Region)

- Gobabis (Omaheke Region)
- Single Quarters and in Okuryangava (Khomas Region).

Another fish shop was opened at Eenhana (Ohangwena Region) late in 2011, with additional fish shops opening at Omuthiya, Opuwa and Katima Mulilo in 2012 (NAMPA, 27 August 2011). However, the Namibia Fish Consumption Promotion Trust does not yet have fish shops in all 13 regions of the country. Mobile selling points have been established, and prices for fish are uniform. Transportation costs are not charged to customers. (Kandjimi, Karolina, Production and Distribution Officer of the Namibia Fish Consumption Promotion Trust, personal communication, October 2011).

Great distances separating the ocean, harbours and major cities and towns further complicate access to fish products.

However, fish consumption has grown significantly in Namibia to about 13.3kg per person per year. This may be because this is affordable; especially horse mackerel, which people buy as a relatively inexpensive form of protein.

Horse mackerel is one of the cheapest forms of available protein and yet it comprises only a minor percentage of total animal protein intake in Namibia. This may call for more promotion by the NFCPT. Namibians tend to consider the price of other fish species for sale in local markets as too high. The perceived high prices are the result of better prices offered for fish on the international market.

Fish species such as Snoek, Angel and Kingklip cannot be reliably supplied on the local market, although many consumers prefer these. Stock distribution figures show that the Erongo, Oshana, Kavango and Khomas regions consume the most fish – in excess of 50 tonnes of fish per month. In 2009, the NFCPT distributed 1,500 tonnes of fish, compared to 2,000 tonnes in 2010.

The Namibian fishing industry donates products such as fish heads, which are by-products of fish processing to the NFCPT for distribution throughout Namibia as a means of promoting food security.

NFCPT commissioned a report on fish consumption in Namibia, assessing the performance of the Trust including its impact on the Namibian market, Namibian current baseline consumption per capita, and consumer profiles (gender, salary, fish accessibility and affordability). This report assesses the current performance of the NFCPT. The Director of the NFCPT recommends more detailed research based on the EAF human dimensions project (Erastus, Albertina, CEO of the Namibian Fish Consumption Promotion Trust, personal communication, July 2011).

The Namibian Government has prioritised aquaculture under the Vision 2030 national development objectives. The goal is to cast freshwater aquaculture in the role of enhancing food security, poverty alleviation and improvement of livelihoods in rural communities (FAO, 2007).

Future research should focus on fish consumption in Namibia in terms of food security, demand for different fish species, and available supply. Quantity and prices, availability, and people's perceptions of fish should be investigated. A detailed fish consumption survey is recommended, working with the Namibia Fish Consumption Promotion Trust, including retailers and distributors throughout the country.

TABLE 4-4. Annual fish consumption (kg) per capita in SADC countries

Country	1961	1971	1981	1991	2003
Angola	7.4	14.3	14.4	13.3	15.7
Botswana	0.7	1.5	3.8	8.4	2.8
Congo DR	10.1	9.8	7.1	7.1	5.8
Malawi	3.9	12.7	7.5	6.6	4.6
Mauritius	10.9	10.3	18.7	19.4	18.7
Mozambique	4.0	5.0	3.5	2.4	5.0
Namibia	9.1	7.9	10.0	10.3	13.3
Seychelles	47.6	56.6	74.5	68.0	61.0
South Africa	5.5	7.9	10.4	9.2	7.3
Swaziland	0.0	0.0	0.1	0.1	2.4
Tanzania	6.4	12.3	11.9	12.0	7.0
Zambia	8.3	14.6	7.2	8.4	6.4
Zimbabwe	1.5	1.7	2.7	2.1	1.2
Africa average	5.0	7.0	8.9	7.9	8.2
World average	9.0	11.0	11.9	13.1	16.5

Source: FAO, 2007

Namibia has a small population and therefore consumes a small proportion of the fish it catches. Most of the catch is exported.

4.3.9 RIGHTS AND DUTIES OF FISHERS

Unions ensure that the Labour Act is appropriately applied in work places in the fishing industry, which is balanced by employers' efforts to make sure that fishers know and perform the duties expected of them. Fishing companies are also expected by the MFMR to have social

responsibility projects for employees and other vulnerable sectors across Namibia, including education, health, food security, and social welfare. Employers are expected to provide a skills development and transfer strategy.

From a social responsibility perspective, every fishing concession right holder must report to the Ministry of Fisheries and Marine Resources on an annual basis when they apply for fishing quotas, on what they achieved in terms of social upliftment projects.

Information on results of individual social responsibility projects reported to the Ministry of Fisheries and Marine Resources by fishing concessionaires is generally not available for public scrutiny. Results collated by the Ministry of Fisheries and Marine Resources and made available to the public would be of value, both in terms of public relations, and in terms of assessing which Namibian sectors are benefiting from social responsibility projects by the fishing industry, and which sectors could potentially be targeted in the future.

4.3.10 NAMIBIANISATION

MFMR adopted a Namibianisation policy to address the uneven distribution of Namibian involvement in the fisheries sector, as was the case prior to independence.

Namibianisation of the fishing industry occurs in many forms. The Government's post-independence policy was to promote onshore processing by fishing companies, particularly in the hake sector, Namibia's largest fishing sector. This generated many jobs for Namibians in these fish factories. However, it also placed an economic burden on fishing companies, because they achieved higher prices for fish that was processed and frozen at sea. The Namibian Economic Policy Research Unit (Erastus, 2002) has published a report on the development of the Namibianisation policy within the hake subsector between 1994 and 1999.

These onshore processing plants are producing increasing quantities of value-added products, something that cannot easily occur in a small processing factory on board a vessel at sea. Value-added products require more market research, sophisticated processing equipment that must be serviced by companies associated with the fishing industry, packaging design for the boxes that contain the product etc. This all creates more jobs and greater depth in the Namibian economy, helping fulfil the goal of Namibianisation. Even the more valuable at-sea processed and frozen hake is now being brought ashore for further processing into value-added products. With value addition also comes an increase in the skills demanded of the Namibian workforce.

Pre-independence, Spain and South Africa had a very significant presence in the Namibian fishing industry. Today they still have a strong presence, but are providing many benefits to Namibia because of their strong international marketing muscle. The staff, and to some extent the ownership of these companies, is steadily becoming more Namibianised. In the case of vessel crew skilling, there is an ongoing push by the Namibian Government towards local crewing, particularly where skills can be proven locally based on International Maritime Organisation seafarer certification standards (Pinehas Auene, personal communication, November 2011). Where companies believe that local skills are not good enough, for example as engineers on large fishing vessels, there is a push by industry to achieve better training standards in Namibia.

There are also a number of large wholly-owned Namibian fishing/fish processing companies with upwards of 500 staff, such as Hangana Seafoods, part of the Ohlthaver and List Group; Etale Fishing which is wholly-owned by previously disadvantaged Namibians, and the Seaflower Group, a Government subsidiary.

While many products are sold under the brand names of international distributors and major supermarkets, on the corner of the packaging boxes linked to these products, there is still the opportunity of developing a Namibian product marketing brand associating quality with all Namibian seafood products.

Data sources to measure Namibianisation are available through organisations such as the MFMR, industry, the Namibian Maritime Fisheries Institute, the Directorate of Maritime Affairs and the Namibian Training Authority. However, the data is generally not produced in documents that are easily available to the public. Dedicated research and personal interviews are required to get a true feel for the subject.

The Namibian Government is implementing a plan that would empower previously disadvantaged communities to benefit from economic activities in the country. The previous Prime Minister, Nahas Angula, tabled this New Equitable Economic Empowerment Framework (NEEEF) in the National Assembly (NA) in October 2011.

The NEEEF aims "to encourage the private business sector to become more equitable and to make greater contributions towards national economic empowerment and transformation". It will make use of a ratings system that will allocate points to private companies on five empowerment pillars, to determine whether they satisfy the requirements to be considered empowered. The five pillars are ownership; management control and employment equity; human resources and skills development; entrepreneurship development, and community investment.

The sectors to be targeted by the NEEEF are fishing, agriculture, mining, manufacturing, construction, trade, tourism, telecoms, logistics and financial services. Companies that do not conform to the requirements of the NEEEF will not be directly penalised, but will not be considered for Government and State-owned Enterprise (SOE) tenders.

The rating consists of a score of 100, with a total of 20 points available for each of the five empowerment pillars. Companies must score a minimum of 10 points in the three mandatory pillars – ownership; management control and employment equity; and human resources and skills' development – and have an overall score of at least 50 points to be considered empowered.

A business where 25% of ownership is in the hands of the previously disadvantaged communities will earn 10 points, with one additional point for every 7.5% owned by such communities up to a maximum point scoring of 20. A business will also score a minimum of 10 points if its combined board and top management structures are 50% filled by previously disadvantaged Namibians, with an additional two points for every additional 10% to a total of 20 points.

Those businesses that devote 1.5% of their gross wages to training will score 10 points, while two points will be scored for every additional 0.1% of gross wages spent on training, with a maximum of 2% for another 20 points in total.

A business will also score points in proportion to the value of its procurement spending allocated to businesses owned by previously disadvantaged Namibians up to a maximum of 50%, while it will garner 10 points for devoting 1% of after-tax profits to community investment.

The NEEEF will be in place for a 25-year period, from 2011 to 2036 (NAMPA, 19 October 2011).

Future research on the Government's ability to continue to achieve Namibianisation within the Namibian fishing industry is central to ongoing development of this core government policy, in terms of how it improves the quality of life of Namibians, and their ability to determine their own destiny through the Namibian fishing industry.

4.4 ECONOMIC DIMENSION

4.4.1 POVERTY

The FAO Country Profile for Namibia in 2007 states that some 56% of the population live on less than US\$2 a day, which makes poverty alleviation a logical priority of the Government of Namibia (FAO, 2007).

Namibia has the highest levels of income disparity and is one of the most unequal societies in the world (UNICEF, 2010). It has also been referred to as a rich country with poor people (NAMRIGHTS, December 10, 2011).

The Regional Director in the Ministry of Health and Social Services lists the social and health issues that affect people, in no particular order below. However, they highlight the social issues that coastal communities, including those from the fishing sector, continuously grapple with, showing many different connotations of poverty:

- poverty-related problems
- disability-related problems
- marriage/divorce/cohabitation problems
- depression
- HIV/Aids/TB-related problems
- sub economic housing needs
- attempted suicide cases
- elderly-related problems
- substance abuse
- family molestation.

(W.S. Kapenambili, Ministry of Health and Social Services Directorate, Director Erongo Region, personal communication, September 2011)

In August 2011, President Hifikepunye Pohamba of Namibia called on African leaders of former liberation movements in southern Africa to adopt common strategies to confront challenges such as poverty, under development and diseases that afflict their people. He said:

The strategies and policies that we adopt should always be aimed at addressing the needs of our communities. The region can only develop economically and become stronger and more competitive if the leaders implement policies that expand and broaden opportunities and empower the people and the communities economically. We must adopt policies that are responsive to the needs of the elderly, women, youth, people with disabilities, peasants and the veterans of the liberation struggle, who gave up everything in order to fight for freedom.. We should particularly pursue policies aimed at expanding agricultural production, broadening the manufacturing base of our economies and investing in the development of physical and communication infrastructure that can form the backbone of economic advancement... This must be backed by strong and effective education systems that can produce competent workforces and leaders of tomorrow who can make the region and the continent more competitive

(NAMPA, 11 August 2011).

There is a need to highlight poverty levels per employment category (e.g. full time, part-time, seasonal) in the fishing industry.

4.4.2 HOUSING

Housing is a political issue in any country, and in Namibia and the fishing industry, this is no exception. The president and government of Namibia place great importance on the welfare of workers in all sectors. President Hifikepunye Pohamba has urged government and the private sector to intensify efforts to improve living conditions for worker staff and their families (NAMPA, 4 August 2011). This includes better housing, health care, clean and safe drinking water, sanitation, electricity and other public amenities.

He urged private sector employers to complement government efforts to address the housing problem in the country. "It is our joint responsibility to build a just society where all our people lead dignified lives, free from dehumanising poverty. I believe it is doable," said the president (ibid.).

A survey conducted between September 2010 and May 2011 by the Shack Dwellers Federation of Namibia (SDFN) indicated that affordable housing and access to land are the biggest needs for residents of Walvis Bay's Kuisebmund and Narraville residential areas. The SDFN is a network of community-led savings' groups working incrementally to secure affordable land, shelter and infrastructure services for low-income urban households across Namibia (NAMPA, 9 June 2011).

Full details of the SDFN survey results are available from the Namibia Housing Action Group NGO, of which the Ministry of Fisheries is a stakeholder (David Shikoyeni, Namibia Housing Action Group, personal communication, July 2011). The survey data result forms are held in hard copy but the data is now being collated on a computer database (Esther Ashipala, Namibia Housing Action Group, personal communication, September 2011). The information gathered will mainly be used to assist the Municipality of Walvis Bay when it comes to the planning of the town, and what should be prioritised in the two residential areas of Kuisebmund and Narraville (NAMPA, 9 June 2011).

One only needs to look at the shack dwelling situation in Walvis Bay to appreciate the housing need for fishing worker communities. Walvis Bay has the dubious reputation of having 12,500 ghettos, according to the survey (NAMPA, 9 June 2011). A ghetto is a shack dwelling constructed in the backyard of a residential property, and there can be as many as 12-15 ghettos established on some normal-sized, regular erven (Esther Ashipala, Namibia Housing Action Group, personal

communication, September 2011). The survey concluded that for most of the Kuisebmund community members, housing was their number one need, followed by access to electricity.

When the survey was undertaken in Walvis Bay, many people working in the fishing industry, particularly onshore processing factory workers, were found to be living in ghettos. This was because their salaries were too low for them to qualify for Municipal land to build a low-cost house. Even some higher-paid fishing industry workers such as those who work at sea were staying in ghettos on account of their irregular income or unreliable future income (Esther Ashipala, Namibia Housing Action Group, personal communication, September 2011).

The Walvis Bay regional secretary of the Namibia Housing Action Group explains that a lot of fishing factory workers have become members of the Shack Dwellers Federation, meeting weekly and contributing money to the Federation. Once their contribution reaches the N\$1,200 mark, they may apply as a group and receive a loan of N\$24,000 each, with assistance of the Namibia Housing Action Group. The Municipality has land available, which these applicants can obtain by paying a deposit. The loan allows applicants to build the basic structure of a house, but this allows workers in the fishing industry to complete the houses in their own time (Esther Ashipala, Housing Action Group, personal communication, September 2011).

4.4.3 EMPLOYMENT

A survey of the residential area of Kuisebmund, home to almost 24 thousand people, many of whom are employed in the fishing industry, indicated an average household size of 5 people per household with an average household income of under N\$2,000/month. For shack dwellers, the situation is more severe – the average family earns less than N\$600 per month, with a 60% unemployed. (NAMPA, 9 June 2011).

In 2010, the Namibian fishing sector provided over 13,000 jobs (see Number of jobs in the fishing industry per target species, sector, nationality and seasonality.). Total direct employment has increased since 2008. This is listed in detail in Appendix 1.

TABLE 4-5. Number of jobs in the fishing industry per target species, sector, nationality and seasonality

Species Name	2008	2009	2010
Hake	7,603	8,439	8,956
Monk	205	340	350
Line fish	388	387	395
Crab	71	81	81
Rock Lobster	550	531	455
Small Pelagic	979	1838	1,361
Seals	81	81	80
Sea Weed	80	80	80
Large Pelagic	536	728	593
Horse Mackerel	261	880	1,029
Total	10,754	13,385	13,380

Source: Ministry of Fisheries and Marine Resources, 2010. Employment Verification Report

TABLE 4-6. Onshore and offshore employment

	2008	2009	2010
Onshore	7,012	9,112	9,386
Offshore	3,742	4,273	3,994
Total	10,754	13,385	13,380

Source: Ministry of Fisheries and Marine Resources, 2010. Employment Verification Report

TABLE 4-7. Nationality

	2008	2009	2010
Namibians	10,299	12,807	12,866
Foreigners	455	578	514
Total	10,754	13,385	13,380

Source: Ministry of Fisheries and Marine Resources, 2010. Employment Verification Report

TABLE 4-8. Categories of employees

Namibian	2008	2009	2010
Perm	6,728	7,887	7,948
Seasonal	1,687	2,402	2,002
Casual	678	888	1,153
Temporary	1,141	1,514	1,768
Total	10,234	12,691	12,871
Foreigners			
Perm	295	194	132
Seasonal	131	208	149
Casual	0	0	0
Temporary	22	221	228
Total	448	623	509
Total	10,682	13,314	13,380

Source: Ministry of Fisheries and Marine Resources, 2010. Employment Verification Report

TABLE 4-9. Marginalised & disabled (hake and horse mackerel sectors only)

	2008	2009	2010
Marginalized	0	0	0
Disabled	11	15	15
Grand Total	11	15	15

Source: Ministry of Fisheries and Marine Resources, 2010. Employment Verification Report

4.4.4 DISTRIBUTION OF SALARIES/ WAGES

Captains, senior officers and occasionally the crew on fishing vessels often have basic salaries with performance bonuses. A skipper in the hake longline industry for example may earn a monthly income upwards from N\$60,000 (Namibian hake longline sector representative, Personal communication, November 2011), including bonuses. Performance bonuses apply for workers in many factory operations.

The president of the Namibian Fishing Industry Union in Walvis Bay, Daniel Imbili, complains that unions have to negotiate wages on behalf of employees, with employers. In the case of sea-going employees, he says basic salaries range from N\$2,500 to N\$3,000 per month for normal crew, and from N\$6,000 to N\$9,000 for officers. Onshore processing factory workers earn from N\$9.00 to N\$13.00 per hour. He emphasizes that the latter is below the poverty line (Daniel Imbili, personal communication, August 2011).

Temporary labour hire among employers in the fishing industry is a very controversial practice, where workers are hired on a temporary basis from employment companies. These workers are not offered fixed contracts, with no benefits or prospects of permanent employment secured. Employers defend this practice in terms of having the flexibility to wait and see what quota they get before they make long-term commitment such as hiring staff. Sometimes companies buy quota from other fishing concessionaires and this additional volume of fish requires extra hands on deck. They also give jobs to those who would otherwise be unemployed people, they say. Government however criticises this practice and describes it as employers not showing commitment to the improvement of staff living conditions.

4.4.5 INDIRECT EMPLOYMENT

No accurate or agreed numbers exist on indirect employment in the Namibian fishing industry, which points to the need for research in this area.

Issues of concern to the workforce but which require further research are:

- job security;
- how do temporary and casual workers lose out in terms of staff benefits compared to permanent workers;
- the impact of seasonality of employment;
- labour hire legalities;
- disparity in salaries between top level onshore professional staff and sea going officers compared to factory workers and lower level crew;
- support service industries,
- minimum wages.

4.4.6 ALTERNATIVE ECONOMIC OPPORTUNITIES

Seasonal workers in the fishing industry are often forced to supplement their income from other economic activities. Often, this requires returning to rural areas from where they originated, to undertake agricultural activities.

Among the opportunities people have carved out for themselves include subsistence fishing, aquaculture, shebeens (selling of alcohol), taxi businesses, trucking, kapana street-side selling of food, and ecotourism.

as three different value indicators. It illustrates the performance of the fishery sector, where landed value is the value of the fish at ex vessel prices.

‘Final value’ is the value of fishery products in their final form at export (ex factory) prices. Export value gives an indication of the Namibian dollar parity of foreign currency earnings brought into Namibia from the sale of fish and fishery products.

FAO Fishstat export and import data is updated annually, and generally has a two year lag time. It specifies species and product forms both by volume and value. This data is useful in that it can easily be extracted off the internet and converted into graphs such as the above, showing long time series.

Data for 2009 and 2010, obtained from the Bureau of Statistics of the Namibian Planning Commission, are detailed in Annexure 2. Namibian Bureau of Statistics export and import data is updated monthly, and is close to real time data. It is also specified by species and product forms, detailing volume and value. In addition, details of fisheries exports by species product from Namibia by country of destination, and the same for imports to Namibia by country of origin, can be requested via the Bureau of Statistics.

Below is a summary of fish exports in the 2009 and 2010 financial years, showing increased foreign earnings.

TABLE 4-10. Value of fish and fish products 2005-2009 (N\$ billions)

Value	2005	2006	2007	2008	2009
Landed Value	3,130	3,146	3,772	3,923	6,766.6
Final Value	3,789	3,985	4,843	5,077	7,266.5
Export Value	3,697	3,883	4,711	4,927	7,060.6
% of total export of goods	22.8	18.9	17.3	13	N/a

Source: Ministry of Fisheries and Marine Resources 2009 & National Planning Commission.

Some people remain at the coast and make a living by selling cooked fish in local residential areas. At the more desperate end of the scale are those who resort to sex work. However, this data was obtained only through information voiced by people associated with fishing industry personnel.

New baseline research is needed to provide detail on alternative employment opportunities.

4.4.7 TRADE AND MARKETS

The Namibian fishing industry plays a vital role in the Namibian economy, contributing about 3.5% of GDP in 2009 (Ministry of Fisheries and Marine Resources, 2009a). Table 4-10 shows the value of stocks landed

Government considers the Fishing Sector as one of the few and key primary sectors of the economy which generate much-needed foreign exchange, which in turn can be channelled back into the economy.

Namibian seafood exports in 2009:

- Total tonnage exported: 264,527,436 tonnes
- Total seafood export value: N\$4,581,966,042 (equating to US\$587,408,046, based on a Namibia \$ to US\$ average exchange rate for 2009, of 0.1282 (OANDA forex converter www.oanda.com)).

Namibian seafood exports in 2010:

- Total tonnage exported: 261,307,590 tonnes
- Total seafood export value: N\$4,804,168,871 (equating to US\$693,241,568, based on a N\$ to US\$ average exchange rate for the 2010 year of 0.1443 (OANDA forex converter).

same applies for products originating from developing and developed countries' fisheries (Hempel et al., 2007a).

Figure 4-4: The International Seafood Industry Value Chain, below, shows some significant benefits that the

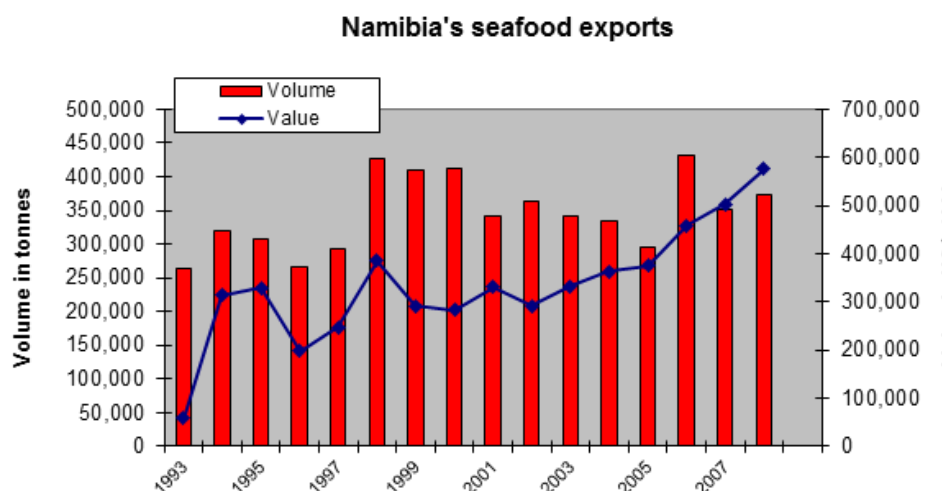


FIGURE 4-3. Total quantity of fish exported and value (Hempel, et al., 2007a).

A detailed study of seafood value addition practices and opportunities in the Namibian seafood industry was undertaken by INFOSA in 2007. In the same report it was pointed out that in studies undertaken by the FAO, as well as independently by the Glitnir Bank, it has been estimated that the majority of benefits generated throughout the value chain are captured by the retail/wholesale/secondary processing sector of the industry. The

Namibian post-harvest fish processing sector has as yet to start capturing, namely in the secondary processing sector, comprising ready-to-eat food items. There is an opportunity for the Namibian government to promote this through benefits similar to the tax benefits achieved through Manufacturing Status currently given to other sectors of the Namibian economy.



Estimated Total Value: 400 billion

Source: FAO and Glitnir Bank

Need to better understand and improve the socio-economic benefits of the fish chain.

FIGURE 4-4. The international seafood industry value chain

During the last decade, a number of marketing reports were undertaken for the BCLME project including the following

- a BCLME regional integration study regarding trade in fish and fish products (Enviro-Fish Africa, 2005a);
- an analysis of commercial law in the BCLME countries covering equitable trade in fish resources and fish products (Enviro-Fish Africa, 2005c);
- the desirability of balanced trade in fish and fish products among the three BCLME countries (Enviro-Fish Africa, 2005d);
- an assessment of the legislation and regulations controlling access to key export markets in the three BCLME countries (Enviro-Fish Africa, 2005g);

- assessing the role and impact of eco-labelling in the three BCLME countries (Enviro-Fish Africa, 2005h), and
- a market analysis of major fish product markets in the BCLME (Enviro-Fish Africa, 2006e).

Marine Stewardship Council (MSC) eco-labelling data is available via the MSC Southern Africa office located in Cape Town, if sectors of the Namibian fishing industry should choose to take this international promotional route for marketing its seafood products. One Namibian fishing sector is currently assessing this option, which requires rigorous fisheries' resource management assessment controls before certification is granted to sell the products internationally with the backing of the MSC eco-label.

A key developmental opportunity is research into secondary fish processing opportunities for local and international markets. A culture of researching ongoing market intelligence information should also be developed.

4.4.8 DISTRIBUTION OF BENEFITS AND RISKS

Namibian fishing industry profitability depends on the species being caught, and can vary significantly across the different sectors.

Fishing industry quota concessionaires need to apply to MFMR on an annual basis for more quotas. One of

the requirements is that they complete a performance questionnaire. The results of the questionnaires are collated by the Policy, Planning, and Economics Directorate of MFMR on an annual basis, and incorporated into reports to the Minister of Fisheries and Marine Resources on total allowable catch (TAC) reports for each fishing sector.

This information is collated for each fishing sector, including information from individual companies' financial statements. Once the information is aggregated and does not contain information that may be commercially sensitive to individual companies, it is made available to the public. Information for public consumption includes fish landings, income and expenditure, employment, and markets where the different products are exported (Anna Erastus, Director – Policy, Planning and Economics, Ministry of Fisheries and Marine Resources, personal communication, May 2011). Collated examples of a number of sectors are shown below.

SPECIES: Monkfish

Figure 4-5 shows earnings from monk fish sales over a six-year period. The price has declined in real terms given that the Namibia Dollar has weakened against other international currencies. This concern is also reflected in the fact that the industry barely managed to make a profit in 2009, whereas in 2010, it recorded a net loss.

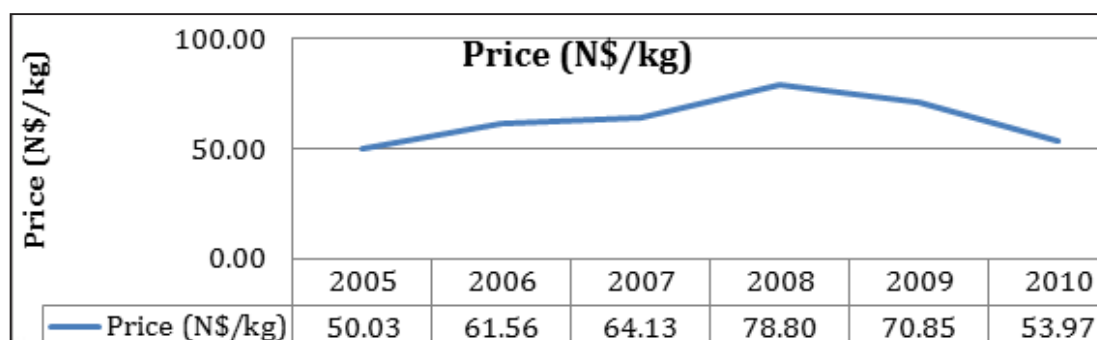


FIGURE 4-5. Monk tail prices (Source: MFMR 2011a).

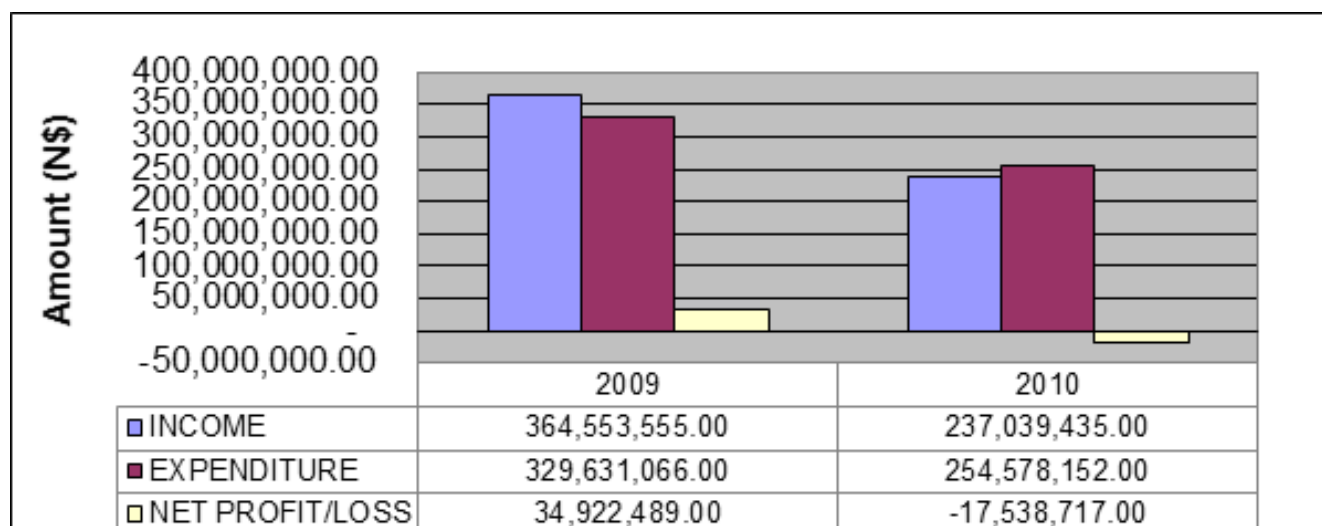


FIGURE 4-6. Income and Expenditure in the Monk sector 2009-2010 (Source MFMR 2011a).

SPECIES: Horse Mackerel

Since independence, the mid-water trawl horse mackerel sector has made significant socio-economic contributions to Namibian communities, particularly in education and health, through financial support and various donations amounting to approximately N\$54 million.

This species is sold entirely to the African market, helping to meet food security needs. While there has been a downturn in western markets, such as the European market, this has not impacted on the African horse mackerel market, where high population demand sustains sales.

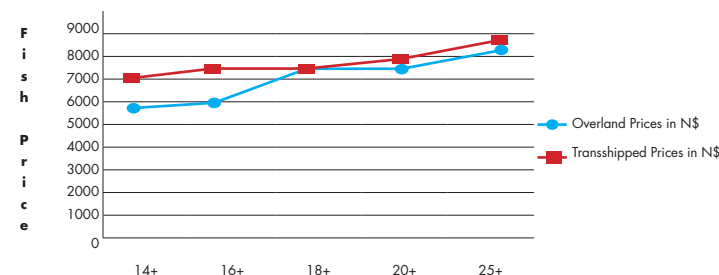


FIGURE 4-7. Horse mackerel average prices in Namibia \$ per metric tonne for 2010 (Source: MFMR, 2011b).

Total expenditure for 2009 rose by 15% (to a total of N\$ 437,496,769.49 compared to N\$378, 910,638.96 in 2008) resulting in similar profits for both years. The industry continues to make a profit and declare dividends.

In 2010, international market prices increased further as a result of reduced availability from other international fisheries. At the same time, Namibia's horse mackerel resource has strengthened, resulting in an improved total allowable catch (TAC). This effective resource management has further resulted in the industry sector declaring significant dividends in 2010 (MFMR, 2011).

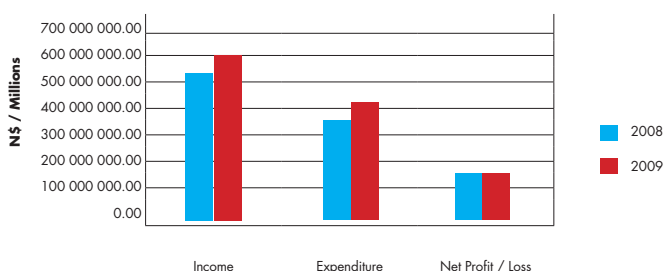


FIGURE 4-8. Horse mackerel sector total income and expenditure and net profit for 2008 and 2009 (Source: MFMR, 2011b).

Figure 4-7 shows horse mackerel average prices in 2010, indicating that the bigger the fish size sold, the better the price it fetches. The majority of fish sold were in the 16+ size range. The decision between allowing fish to grow for longer in order to fetch higher prices, versus the economics of immediate throughput, is a socio-political decision that government and scientists make every year.

Overland markets for fish are in proximity to Namibia. Trans shipped fish, which goes directly from trawlers to reefer transport vessels that distribute fish to African markets, fetch nominally higher prices (MFMR, 2011b).

Figure 4-8 shows that income in 2009 increased by 9% to N\$ 613,363,682.65, compared to N\$ 556, 051,170.93 the previous year.

From Figure 4-9 and Figure 4-10 is evident that the majority of industry expenses in horse mackerel are due to high operative costs for large (over 100m long) horse mackerel vessels. Fuel costs are consequently a major component and, given recent international fuel price volatility, forced companies to convert vessels to utilise heavy fuel, which is cheaper.

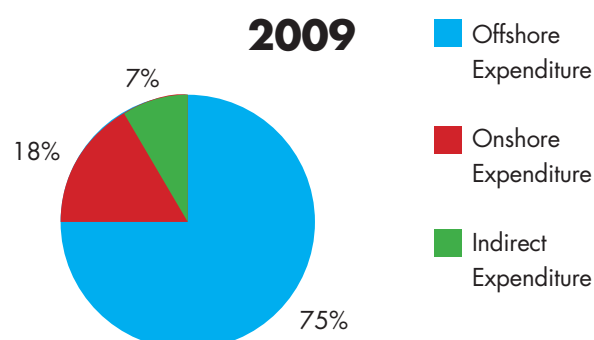


FIGURE 4-9. Breakdown of offshore, onshore and overheads expenditure 2009 (Source: MFMR, 2011b).

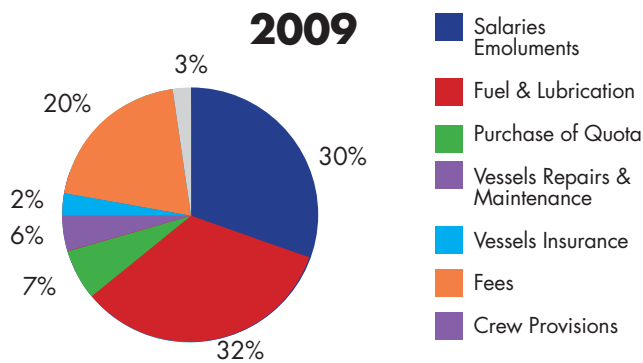


FIGURE 4-10. Breakdown of major offshore expenditure 2009 (Source: MFMR, 2011b).

SPECIES: Rock Lobster

All Namibian rock lobster is marketed internationally by Namibian Rock Lobster Packers (Pty) Ltd (NAMROCK). This species particularly reflects the impacts that the international economic crisis of 2008 had on countries all over the world. Rock Lobster is considered a luxury food,

which means that consumers reduced spending on rock lobster as the economic crisis deepened.

During NAMROCK's annual marketing trip to Japan to negotiate prices in the 2007/2008 season (just prior to the crisis hitting the world), the company secured a record price of N\$205.91/kg.

In contrast, during the 2008/2009 season, the price of lobster dropped to N\$103.00/kg, resulting in the local industry making major losses, as the selling price was below production costs.

For the 2009/2010 fishing season, the price increased again to N\$160/kg, but most smaller right holders were not able to capitalise on the price increase as their financial means were too small by this time, and many did not go out to sea during this season.

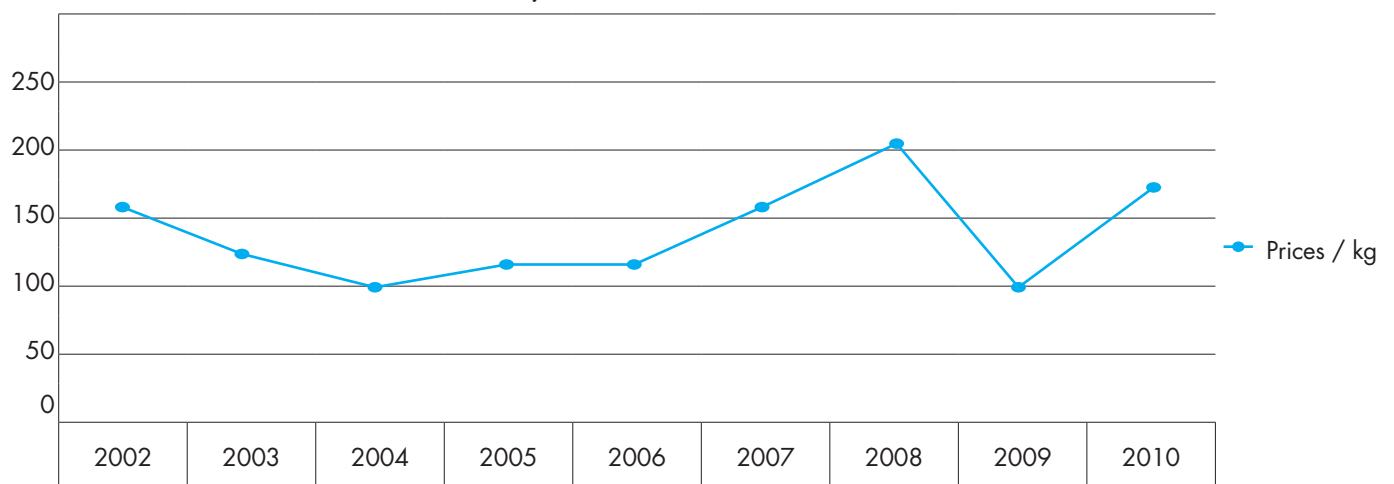


FIGURE 4-11. Annual fluctuations in the average price of rock lobster (whole frozen) 2002-2010 (N\$/kg). Source: MFMR, 2011.

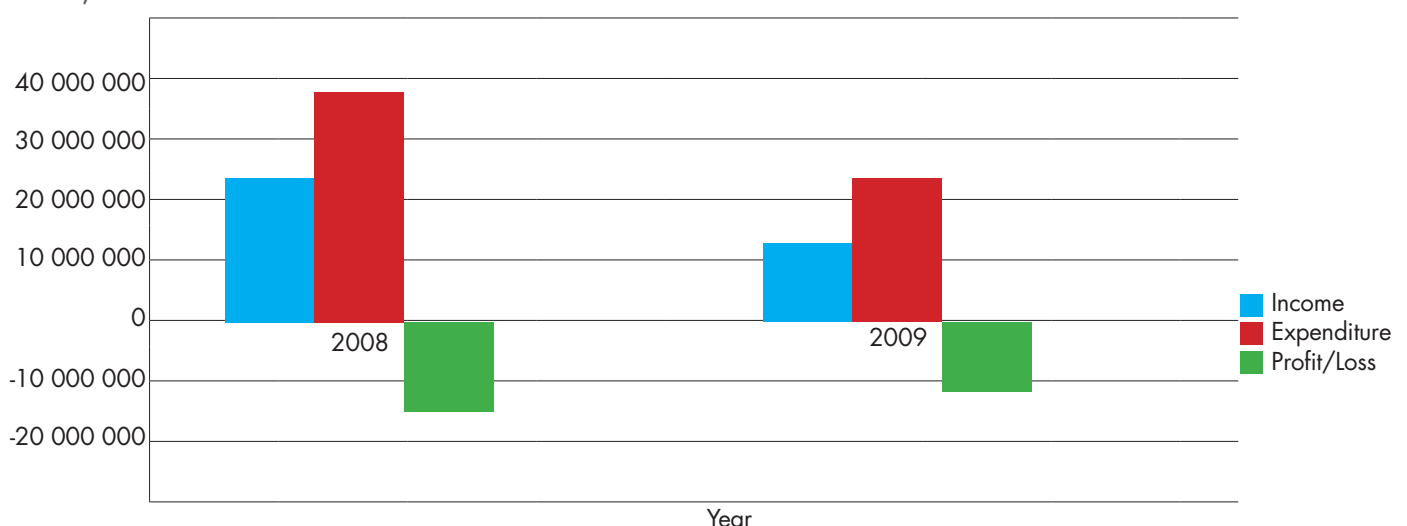


FIGURE 4-12. Income, expenditure, profit and loss in the rock lobster fishery (Source: MFMR, 2011b).

The rock lobster industry has also been impacted in recent years by lower catches and increased debt with financial institutions. Some right holders had taken out significant loans which they could not easily pay back due to reduced catches and high catching costs (MFMR, 2011b).

Figure 4-11 shows international market price trends, and in particular the impact of the 2008 credit crunch which forced down Namibian performance.

Figure 4-12 shows financial losses following the 2008 worldwide economic crisis, and the inability of companies to immediately recover in 2009.

Catch costs are the main expenditure items. These costs continue to climb as companies find it increasingly difficult to fill their limited quotas, which further complicates operations on a profitable level.

SPECIES: Deep-sea red crab

Good prices were recorded for crab products in 2005 (N\$38.79/kg) reducing in 2006 (to N\$37/kg) and slumping further in 2007 (to N\$30/kg). This trend continued in 2008 (at N\$30/kg) but recovered somewhat in 2009 (to N\$31.30/kg). During 2010, this industry saw record prices, at N\$40.00/kg (MFMR, 2011).

During the 2010 season, the crab sector has remained stable and substantial profits were experienced as a result of high demand from international markets. Salaries remained the major expense, with quota fees to government, vessel repairs and fuel contributing to industry expenditure, which shows that this is an industry that makes money at present, and where operational costs are justified (MFMR, 2011b).

4.4.9 COST OF PRODUCTION

A key factor that emerges on distribution of the benefits/risks is the impact of cost of production, given risks of increasing fuel prices, foreign exchange rate fluctuations and other costs such as labour. This is particularly an issue in the hake sector, which employs a proportionally high number of people and is consequently at greater risk from overhead costs during an economic downturn.

The Namibian fishing sector is also characterised in many cases by ageing vessels. Is there the potential to introduce a 'Fish Bank' to help turn this scenario around and make the industry more competitive internationally? Efficient

vessels are needed to maximise financial returns at a time when fuel prices are spiralling upwards. Such vessels would also ensure a reliable supply of raw material to onshore fish processing factories.

While recognising that there is no additional money presently available from government, the potential for future assistance in terms of some form of sustainability strategy should be explored. One area could be to make the Ministry of Fisheries and Marine Resources levy payment structures more flexible, by reducing levies to industry during times of economic hardship (Silvanus Kathindi, Managing Director, Etale Fishing (Pty) Ltd., personal communication December 2011).

There is a need to assess industry vulnerability to economic shocks due to external factors and develop strategic pathways required to reduce risks.

4.4.10 ACCESS TO CREDIT

Banks have become increasingly reluctant to provide loans to the fishing industry since the onset of a downturn in the Namibian hake sector around 2004. This has resulted in a number of large hake companies having to liquidate. Currently, Namibian fishing quotas cannot be placed on a company's financial books, because government has full say on whether and in what quantity it allocates quotas to concessionaires every year. This puts companies at a significant disadvantage when it comes to accessing credit – directors of the companies sometimes having to sign away their personal assets as security to banks in order that they can obtain loans for their fishing companies (Namibian hake trawl sector representative, personal communication September 2010).

In countries such as New Zealand and Iceland, fishing companies have been awarded either long-term or in perpetuity fishing rights for specific fisheries, comprising individual transferable quotas (ITQs). These rights can be placed on the company's financial books, and are recognised as security by banks when giving loans. Quotas for each fishing right holder are adjusted proportionately based on allocated fishery total allowable catches issued on an annual basis. While attractive from an access-to-credit perspective, Namibia has currently chosen not to take the ITQ route because quotas tend to be allocated to large companies who can afford to pay more owing to their vertically-integrated structure, which allows them to earn more throughout the value chain.

Namibia prefers to allocate fishing concessions and quotas on the basis of performance orientated towards achieving Namibianisation of the fishing industry where the previously disadvantaged benefit from the sector, and where more jobs are created for Namibian citizens (Ministry of Fisheries and Marine Resources, July 2009).

Research should be undertaken to assess who needs access to credit, what the credit requirements are, and how successful stakeholders have been in assessing credit.

4.4.11 FLOW OF BENEFITS

There are quite a number of small to medium enterprises (SMEs) informally or formally involved in supporting the fisheries sector. With increased technology sophistication in the fishing industry, and new forms of value-addition to products making the industry ever more complicated, there is apparent scope to increase the size and impact of this support sector.

An overview and analysis of support industries and services, and their future potential is required.

4.5 CULTURAL DIMENSION

4.5.1 LOCAL KNOWLEDGE

Local knowledge refers to the insights of members of the fishing industry “on the ground”. It includes fishers to factory workers, and unions to community workers, i.e. those who have inside knowledge on what is happening. There is a need to identify the people with this knowledge, the beneficiaries of this knowledge, and how fishing industry communities benefit from this knowledge. Further, with regard to health and safety regulations, are they followed and where can training and capacity building be obtained?

Moeniba Isaacs (University of the Western Cape) and Dr. Barbara Paterson (Ma-Re Institute, University of Cape Town), conducted interviews with fish plant workers in Walvis Bay during early 2011. This was in the larger context of a study on local ecological knowledge, funded through a bilateral research agreement between the South Africa National Research Foundation and Namibia Ministry of Education (Barbara Paterson, personal communication December 2011). They asked about their work; how they process the fish; the skills this entails; what they know about the fish; where the fish comes from, and how it is caught (Barbara Paterson, personal communication December 2011).

Generally this information is very scattered, so organisations in the future such as the University of Namibia, Polytech, MFMR, and the BCC project will need to undertake this type of baseline research to broaden the knowledge base on how this information impacts the community.

4.5.2 CUSTOMARY FISHING PRACTICES AND INSTITUTIONS

Traditionally in Namibia, fishing company owners are engaged in a continuous and healthy tug of war with government and its scientists over fish stock status and TAC levels.

These indicate the need for continued scientific-based research and management of stocks, while incorporating research into human dimension issues. In terms of industry institutions involved, the Confederation of Namibian Fishing Associations is formally recognized as the official voice of larger industry sectors. Smaller sectors such as line fishers, deepwater crab harvesters and the seal sector generally have better-known spokespeople with good knowledge on fishing practices, equipment, new technology and how markets are impacting their sectors. However, they do not have the legitimacy of formal associations. The MFMR has good links with fishing associations at an institutional level. Areas for future research include assessing customary fishing practices and institutions, assessing how effectively their knowledge is integrated in terms of better understanding impacts on the ecosystem, and assessing whether there are better systems and technologies available.

4.6 POLITICAL DIMENSION

4.6.1 POWER STRUCTURES

The structures best linked to the Ministry of Fisheries and Marine Resources are the official fishing industry associations representing fishing sectors. Associations tend to operate at the generic fisheries’ sector level, and there are good opportunities for co-management between MFMR and the specific industry associations.

Under this, individual fishing concession holders motivate their personal interests to the Ministry. Where commercial competition and interests are at stake, much lobbying goes on behind closed doors. This includes fisher unions, government ministries and agencies, regional and local government interests, community leaders and NGOs. At the Marine Advisory Council level, representatives of these different structures regularly meet to advise the Minister of Fisheries and Marine Resources on important issues pertaining to the commercial fishing industry.

Other than internal minutes of meetings, which are generally specific to the sector interests involved, this information is generally not publicly available.

Baseline research is needed on how well the fishing sectors/fishermen are represented; on how well fishermen and fish factory workers' needs are addressed and presented; and to what extent communities are benefitting from these structures.

4.6.2 POLICIES SHAPING DISTRIBUTION OF COST AND BENEFITS

Are policies that shape the distribution of costs and benefits in place? Where, and are they being implemented?

A prime example of a united approach to policies between Namibian government departments is Namibia's negotiation with the European Union over the European Economic Partnership Agreements (EPAs) on trade. Namibia's most important export market for seafood products is the European Union. Government departments such as MFMR, the Ministry of Trade and Industry (MTI), the Namibia Planning Commission (NPC), and the Ministry of Finance are taking a united stance on this issue.

In September 2011, the European Commission (EC) adopted a proposal to amend market-access regulations for countries that have not yet signed the EPAs. Namibia and other countries were given until January 2014 to sign the agreements, or risk losing out on accessing the EU markets duty and quota free. But despite the deadline, Namibia maintains that it will not sign the agreements in their current format. The Namibian Government wants the necessary 'policy space' to develop Namibian industries and the Namibian economy. It is negotiating to ensure that there are no EPA provisions that negatively affect this policy space.

"We are faced with an unacceptably high level of unemployment and our economic growth level is too slow to address all of our developmental needs. Therefore, the trade agenda must not limit our ability and our ambition to become an industrialised nation as stipulated by Vision 2030," the Deputy Minister of Finance Calle Schlettwein, now Minister of Trade and Industry, stated.

"The bad part of the EPAs is that, as long as Namibia exports raw materials to the EU markets, then they impose no tariffs, but the more Namibia adds value, the higher the tariffs. If we sign the EPA in its

current form, we will be deprived of the opportunity to develop our own industries and to export finished goods to other large markets," he added (NAMPA, 2 November 2011).

Baseline research is required on how the key government line ministry policies are related to the commercial fisheries sectors, and whether these policies are effective. These policies also need to be reviewed and updated as required.

4.6.3 POLITICAL STABILITY IN THE COUNTRY, REGIONAL AND END MARKETS

How stable and strong is Namibia politically? What effect do changes in political stability have on the international marketing of the Namibian fishing industry?

The 2011 Ibrahim Index of African Governance rated Namibia the sixth best-governed country on the African continent in 2010. Namibia is ranked after Mauritius, Cape Verde, Botswana, Seychelles and South Africa, in that order. Established in 2007, the Ibrahim Index provides an annual assessment of governance performance in every African country, and is independently funded (NAMPA, 10 October 2011).

Namibia is now ranked 83rd of 142 countries in the Global Competitiveness Index Report, down from 74th place in the 2010-11 ranking. Namibia's descent is the result of a particular weakening of the macroeconomic environment, caused in large part by a significant government budget deficit in 2010. "The country continues to benefit from a solid institutional environment (43rd position), with well-protected property rights, an independent judiciary, and strong public trust of politicians," it said (NAMPA, 7 September, 2011).

Namibia's transport infrastructure is also good by regional standards (40th), and its labour market (57th) functions fairly well. Its financial markets are well developed by international standards (36th), along with a solid confidence in financial institutions.

The most problematic factors for doing business in Namibia are: inadequately educated workforce (16.9% of respondents), poor work ethic in national labour force (11.9%), inefficient government bureaucracy (11.4%), and corruption (11.2%) (NAMPA, 7 September 2011).

A downturn in political stability is mirrored in a downturn in business confidence within a country, particularly in Africa where in the past, corrupt governments have strangled the financial viability of certain countries. The fact that the southern African region is currently stable is generating economic development and trade.

The impact of decreased political stability on the Namibian fishing industry, is a potential research area.

4.6.4 TRANSPARENCY OF THE DECISION MAKING PROCESS

Transparency in decision making is a core value of the MFMR Strategic Plan – to what extent does this happen? Evidence relating to this would be in the minutes and reports of meetings within and between government line Ministries and stakeholders. The problem with this is that these documents are seldom released into the public domain.

Independent surveys and audits are required to verify transparency in decision making.

4.6.5 ACCOUNTABILITY OF DECISION MAKERS

To what extent are decision makers held accountable and to whom: the people of Namibia; shareholders; fishing associations; union members? And what are the consequences and implications if decision makers are not held accountable?

At a national level, the Namibian Constitution requires the “Executive Branch” of Government to be accountable, responsible and answerable to the “Legislative”. However, when nearly 50 members of the Executive Branch make up nearly 70% of all the 72 voting members of the National Assembly, Executive Branch accountability, answerability and responsibility to the Legislature becomes a mere illusion (NAMRIGHTS, December 10, 2011).

High-end corruption in Namibia involves tens of millions of dollars at a minimum. Some observers consider the influential role of one party to be one of the root causes of present-day concerns of corruption in Namibia (World Bank, 2011).

Many Namibian organisations are in place to promote decision making accountability, such as the Anti Corruption Commission (ACC); the Ombudsman; the Legal Assistance Centre (LAC); the Auditor General; Community Based Organisations; the Labour Resources

and Research Institute (LARRI); the Ministry of Justice; the Namibia Institute for Democracy (NID); the Institute for Public Policy Research; the Namibian Police; the Office of the President and the media.

Research on transparency and accountability would highlight issues including: to what extent are decision makers held accountable and to whom; and what are the consequences and implications if decision makers are not held accountable?

4.7 CONCLUSION

The ‘Human Dimension’ of fisheries, as shown by this report, is absolutely central to fisheries management, particularly given that Namibia’s industrial commercial fisheries compete directly with sophisticated fishing industries throughout the world, many of whom have much stronger financial backing.

As demonstrated by the Human Dimensions Framework at the beginning of this report, there are many areas related to fisheries. Some operate at the international level such as export markets, others at national, regional, community, and ultimately the very personal level of impacts on individuals.

From an environmental perspective, fisheries management has been central to ensuring long-term sustainability of fish stocks. Many of the other elements of fisheries identified in this report have a long history, particularly from a commercial perspective, and some of them are quite well documented. However, strategic linking of all these elements for effective management of fisheries resources in a holistic manner has not occurred.

By approaching fisheries management from the perspective of an ecosystem approach to fisheries, the human dimension is recognised as an essential component, and this paradigm shift opens the door for detailed research into many aspects of fisheries management that have been largely ignored, particularly societal elements that impact communities. It also allows for a broader approach to economic research, thereby promoting greater competitiveness within the Namibian fishing industry, both nationally and internationally.

Ultimately fishing sectors and employees should be consolidated around structures that enhance communication, consultation and competitiveness.

Data necessary to incorporate the human dimension of fisheries exists, but has not been incorporated into the everyday operation of fisheries management structures. For this reason, it is patchy, and often not easily accessible. In other instances, it is virtually non-existent. For this reason, strategic thought needs to investigate where we go from here in terms of developing a well-rounded information resource on all key elements of the human dimension to fisheries management.

TABLE 4-11. Summary of data requirements and gaps per human dimension

Dimension	Data requirements and gaps
Institutional	
Policies/legal framework	• Collation of all government policies and Acts of Parliament that relate to the fisheries sector. • Rights of sea-going workers when they operate outside the Namibian EEZ. • Conditions of staff (including worker awareness of the Labour Act, and where relevant the Maritime Act). • Regulations on discharge of ballast water from foreign vessels in Namibia harbours, what Act does this fall under, as it can impact Namibia aquaculture? • On behalf of all stakeholders “sketch the bigger picture” so people are able to see what laws and policies from a range of government departments relate to the fisheries sector, and how they interlink.
Access/use right	• Regulations relating to each of Namibia’s different fisheries. • MFMR explanation of access/use right process e.g. on MFMR website. • Discretion of Ministerial powers in terms of the Act.
Participation (fishers, fish workers)	• Knowledge of skippers should be included in fisheries stock assessment analysis. • Input of fish workers in policy development. • Surveys of these groups needed to assess where they can potentially provide information and what their needs and concerns are.
Community institutions	• Community-level needs assessment. • Scope to identify relevant community organisations.
Interaction between different policies	• Understanding of impacts. • Need study on harmonisation of policies between different government ministries. (BCLME SAP IMP project will study this on a regional basis).
Institutional linkages, e.g. other ministries, universities, NGOs.	• Which institutions have links to fisheries? Better understanding required. Also requires networking. • Assess linkages with broader government, and other institutions.
Enforcement & compliance	• Regulations and monitoring/policing bodies. • There is a lack of capacity to control quality and make full use of data that has been collected, including that of fisheries observers, which hinders progress on research and management. • Ongoing research and monitoring required to meet international market access regulations and protocol implementation, e.g. cross border compliance (non-compliance = no access) so need full understanding of requirements to fast track compliance. The shellfish aquaculture sector through Namibia Standards Institute (NSI) needs accreditation.
Social research	• Define dependency ratios. • Assess the social responsibilities of fishing rights holders. • Undertake detailed fish consumption survey via NFCPT including retailers and distributors throughout country. • Assess proposed mandatory Social Responsibility Fund, levied and potentially managed through MFMR.
Capacity building	• Retention of critical staff such as scientists very important. Assess training needs of the fishing industry. MFMR and industry where possible should plan to have understudies for key jobs. • Undertake competency requirements for fishing industry. • Future work will require development of systematic work based curriculum standards, and course training manuals through the Namibia Training Authority process, and complying with Namibia Qualifications Authority accreditation requirements.
Social Dimension	
Gender, age	• The spread. Directly employed, and to a much lesser extent, indirectly employed. Requires new baseline research, specifically for age, split between land based and sea based. • Determine current age profile, potential impacts thereof and future trends.

Dimension	Data requirements and gaps
Social cohesion	Within their ethnic groups the fishing industry community appears close knit. Baseline research is needed to find out whether fishing encourages cohesion or promotes conflict.
Religion, values, beliefs, perceptions, attitudes	Qualitative research is required to improve information dissemination and thereby promote informed attitudes and perceptions of the fishing industry, the ocean, fish, and fish consumption.
Goals & aspirations	New research on how people regard work and quality of life issues is required.
Livelihoods, practices, options, strategies.	- The nature of employment - quality/wages. - Dependency ratio/direct or indirect.
Health.	Occupational health issues.
Education.	- Curriculum development in schools and higher education. - Extensive promotion of fish to community. Alternative ways of fish preparation before cooking. - There is a need to enhance local capacity, using University of Namibia (UNAM), Polytechnic, and other local institutions to build capacity for research.
Food security.	- How does industry contribute to local food security? Is government making a conscious effort to ensure industry is assisting? - Research quantity and prices, availability, and perceptions of fish. - Undertake a detailed fish consumption survey working with the Namibia Fish Consumption Promotion Trust, including retailers and distributors throughout the country.
Rights/duties of fishers.	- Corporate social responsibility to those who are disadvantaged, through promotion of education, health and social welfare, for example. - Skills development and transfer strategy. - Social responsibility project results collated by the MFMR and made available to the public would be of value, both in terms of public relations, and in terms of assessing which Namibian sectors are benefiting from projects by the fishing industry, and which sectors could potentially be targeted in the future.
Namibianisation	- Improving procurement procedures so that Namibian suppliers benefit. - Skills audit in the fishing industry to identify areas for up-skilling to put necessary training programs in place. - Improving value addition of products e.g. hake and horse mackerel sectors. - Developing a Namibian product marketing brand. - Future research on the Government's ability to continue to achieve Namibianisation within the Namibian fishing industry is central to ongoing development of this core Government policy, in terms of how it improves the quality of life of Namibians, and their ability to determine their own destiny.
Economic Dimension	
Poverty	- How do you define poverty? - Number of workers and dependents. - Cost of living - prices of goods and services. - Quality of life - village versus town residents poverty not the same. - Migrant labour (men/women ratios). - Nutrition. - Need to highlight poverty levels per employment category (e.g. full time, part-time, seasonal)

Dimension	Data requirements and gaps
Employment - income levels and quality of employment.	• Number of jobs - permanent versus temporary and additional benefits to staff. • Labour hire legalities. • Job security. • Cost of living. • Disparity in salaries between top level professional staff and factory workers/vessel crews. • Support service industries and minimum wages. • Seasonality of employment. • Quality of employment.
Alternative economic opportunities	• New baseline research is needed to provide detail on alternative employment opportunities such as subsistence fishing; aquaculture; shebeens; taxis; prostitution; trucking; kapaņas; fish shops that are value adding locally such as the Swakopmund fish deli; eco-tourism.
Trade and markets (post harvest)	• Import/export data.
Distribution of benefits/risks	• Scale of earnings versus risks. • Research into secondary fish processing opportunities for local and international markets. Market intelligence info development.
Access to credit.	• Find way of using quota as collateral - not possible currently. • Who needs Access to credit? Develop ways of educating credit institutions about the fishing and aquaculture industries.
Cost of production.	• Assess industry vulnerability to economic shocks due to external factors and strategic pathways required to reduce risks. Fuel price; foreign exchange rates; energy, water and labour costs; Potential emergency assistance in times of industry economic shocks - sustainability strategy, but no money for this at moment. Possible Fish Bank? - need to replace ageing vessels. Investigate industry vulnerability to external factors.
Flow of benefits.	• Number of SME's informally and formally involved in the fisheries sector. Scope for more? • Need overview and analysis of support industries and services, and future potential.
Cultural Dimension	
Local knowledge	• Who are the people with the knowledge? • Who are the beneficiaries? • What are the benefits of the resources to the communities? • Baseline research to understand how this information impacts on the community. • Health and safety issues - are these followed and where can TCB be obtained?
Customary fishing practices and institutions	• Which types/groups exist? (rock lobster; mullet; subsistence anglers; Hanganeni - Henties Bay Anglers Association). • How many members and associations exist? • Equipment currently used and need for new technology. • Indigenous knowledge systems regarding fish. • What are the impacts on the ecosystem? • Are there better systems/technology available?

Dimension	Data requirements and gaps
Political Dimension	
Power structures (objectives and goals of different stakeholder groups).	• Who are the stakeholder groups? • What are their objectives & goals? • How effective have they been in executing their objectives & goals? • Baseline research is needed on how well are the fishing sector/fishers represented? • How well are the fishers/workers' needs addressed and presented? • To what extent are the communities benefiting from these structures?
Policies shaping distribution of costs & benefits (equity).	• Are such policies in place and where? (Ministry of Trade and Industry (MTI)/Namibia Planning Commission (NPC)/MFMR? • Are such policies implemented? • How effective is the Namibia Fish Consumption Promotion Trust (NFCPT) and how can it be expanded/supported? • Baseline research is required on what all the key Government line Ministry policies are related to the commercial fisheries sectors and whether these policies are effective. These policies also need to be reviewed and updated as required.
Political stability in the country, regional and end markets.	• How politically stable and strong is Namibia, the SADC region and the international markets? • What is the impact of political stability on enabling the Namibian fishing industry to market internationally? • How would political instability effect the Namibian fishing industry?
Transparency of the decision making process.	• It is a core value of the MFMR Strategic Plan - to what extent does this happen? • Independent surveys and audits.
Accountability of decision makers.	• To what extent are decision makers held accountable and to whom? (People of Namibia; shareholders; association and union members). • What are the consequences and implications (if any) if decision makers are not held accountable?

While economists are included in fisheries management structures in Namibia, social scientists do not currently contribute research on the industrial fisheries sector and its implications in terms of fisheries management strategies and priorities. There is the potential to include social scientists within the Ministry of Fisheries and Marine Resources Directorate of Policy, Planning and Economics.

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4.9 APPENDIX 1. FISHING INDUSTRY EMPLOYMENT BREAKDOWN

A. HAKE			
A.1 ONSHORE AND OFFSHORE EMPLOYMENT			
	2008/9	2009/10	2010/11
Onshore	4,974	6,103	6,861
Offshore	2,629	2,336	2,095
Total	7,603	8,439	8,956
A.2 GENDER			
	2008/9	2009/10	2010/11
Males Offshore	2,623	2,325	2,087
Males Onshore	1,776	2,511	2,871
Total Males	4,399	4,836	4,958
Females Offshore	6	11	8
Females Onshore	3,198	3,592	3,990
Total Females	3,204	3,603	3,998
Total	7,603	8,439	8,956
A.3 NATIONALITY			
	2008/9	2009/10	2010/11
Namibians	7,348	8,271	8,797
Foreigners	255	168	159
Total	7,603	8,439	8,956
A.4 CATEGORIES			
	2008/9	2009/10	2010/11
Namibian			
Permanent	5,828	6,194	6,308
Seasonal	0	0	0
Casual	514	697	856
Temporary	1,008	1,380	1,633
Total	7,350	8,271	8,797
Foreigners			
Permanent	233	97	91
Seasonal	0	44	40
Casual	0	0	0
Temporary	20	27	28
Total	253	168	159
Total	7,603	8,439	8,956
A.5 POSITIONS			
	2008/9	2009/10	2010/11
Administration	552	438	438
Bosuns/Winchmen	41	17	17
Captain(s)	47	56	56

Crew	1,475	1,601	1,601
Deck Officer(s)	76	131	131
Driver	1	1	1
Engineer(s)	101	140	140
General/Factory workers	3,009	5346	5,346
Jetty Crew	31	30	30
Management	147	178	178
Officers	103	94	94
Other	1,949	319	836
Security	4	4	4
Shore Skipper/ Technical	9	9	9
Skippers	9	7	7
Store man	1	1	1
Supervisor	47	65	65
Technician	1	2	2
Total	7,603	8,439	8,956
A.6 MARGINALISED & DISABLED			
	2008/9	2009/10	2010/11
Marginalised	0	0	0
Disabled	11	13	13
Total	11	13	13
B. MONK			
B.1 ONSHORE AND OFFSHORE EMPLOYMENT			
	2008/9	2009	2010
Onshore	20	116	134
Offshore	185	224	216
Total	205	340	350
B.2 GENDER			
	2008/9	2009	2010
Males Offshore	185	224	216
Males Onshore	13	76	88
Total Males	198	300	304
Females Offshore	0	0	0
Females Onshore	7	40	46
Total Females	7	40	46
Total	205	340	350
B.3 NATIONALITY			
	2008/9	2009	2010
Namibians	201	335	345
Foreigners	4	5	5
Total	205	340	350
B.4 CATEGORIES			
Namibians			
	2008/9	2009	2010

Permanent	184	330	337
Seasonal	0	0	0
Casual	0	0	0
Temporary	17	5	8
Total	201	335	345
Foreigners			
Permanent	2	3	3
Seasonal	0	0	0
Casual	0	0	0
Temporary	2	2	2
Total	4	5	5
Total	205	340	350

B.5 POSITIONS

	2008/9	2009	2010
Bosun/Factory Manager	4	4	4
Captain(s)	4	17	16
Crew	45	152	150
Deck Officer(s)	5	28	25
Engineer (s)	8	31	29
Factory Manager	2	2	2
Freezer Bosun	1	1	1
General/Factory Workers	0	54	68
Management	0	7	7
Others	136	44	48
Total	205	340	350

C. LINE FISH

C.1 ONSHORE AND OFFSHORE EMPLOYMENT

	2008/9	2009	2010
Onshore	299	300	303
Offshore	89	87	92
Total	388	387	395

C.2 GENDER

	2008/9	2009	2010
Males Offshore	294	295	298
Males Onshore	72	63	59
Total Males	366	358	357
Females Offshore	5	5	5
Females Onshore	17	24	33
Total Females	22	29	38
Total	388	387	395

C.3 NATIONALITY

	2008/9	2009	2010
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Namibians	383	382	390
Foreigners	5	5	5
Total	388	387	395

C.4 CATEGORIES

	2008/9	2009	2010
Permanent	162	153	166
Seasonal	189	193	194
Casual	35	31	27
Temporary	2	10	8
Total	388	387	395

C.5 POSITIONS

	2008/9	2009	2010
Administration	20	18	18
Captain(s)	14	15	14
Cook	2	2	2
Crew	228	228	233
Deck Officer(s)	11	11	11
Driver	1	1	2
Engineer (s)	12	12	12
General/Factory Workers	38	37	42
Management	8	8	9
Other	54	55	52
Total	388	387	395

D. CRAB

D.1 ONSHORE AND OFFSHORE EMPLOYMENT

	2008/9	2009	2010
Onshore	25	29	29
Offshore	46	52	52
Total	71	81	81

D.2 GENDER

	2008/9	2009	2010
Males Offshore	46	52	52
Males Onshore	23	27	27
Total Males	69	79	79
Females Offshore	0	0	0
Females Onshore	2	2	2
Total Females	2	2	2
Total	71	81	81

D.3 NATIONALITY

	2008/9	2009	2010
Namibians	63	71	71
Foreigners	8	10	10
Total	71	81	81

D.4 CATEGORIES

Namibians

	2008/9	2009	2010
Permanent	42	38	38
Seasonal	18	29	29
Casual	0	0	0
Temporary	3	4	4
Total	63	71	71

Foreigners

Permanent	0	0	0
Seasonal	8	10	10
Casual	0	0	0
Temporary	0	0	0
Total	8	10	10
Total	71	81	81

D.5 POSITIONS

	2008/9	2009	2010
Captain(s)	1	1	1
Cooks	2	2	2
Crew	33	35	35
Deck Officer(s)	3	3	3
Engineer (s)	2	3	3
General/Factory Workers	21	25	25
Greasers	2	2	2
Management	5	7	7
Officers Mates	2	3	3
Total	71	81	81

E. ROCK LOBSTER

E.1 ONSHORE AND OFFSHORE EMPLOYMENT

	2008/9	2009	2010
Onshore	424	345	332
Offshore	126	186	123
Total	550	531	455

E.2 GENDER

	2008/9	2009	2010
Males Offshore	126	183	120
Males Onshore	127	109	106
Total Males	253	292	226
Females Offshore	0	0	0
Females Onshore	297	239	229
Total Females	297	239	229
Total	550	531	455

E.3 NATIONALITY

	2008/9	2009	2010
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Namibians	550	531	455
Foreigners	0	0	0
Total	550	531	455

E.4 CATEGORIES

	2008/9	2009	2010
Perm	35	14	11
Seasonal	499	484	414
Casual	12	33	30
Temporary	4	0	0
Total	550	531	455

E.5 POSITIONS

	2008	2009	2010
Administration	35	32	26
Captain(s)	30	28	27
Cook	36	30	31
Crew	123	130	137
Deck Officer(s)	40	32	28
Driver	15	20	10
Engineer (s)	38	29	24
General/Factory Workers	225	220	163
Management	8	10	9
Total	550	531	455

F. SMALL PELAGIC (PARTICULARLY PIL-CHARD)

F.1 ONSHORE AND OFFSHORE EMPLOYMENT

	2008/9	2009	2010
Onshore	905	1,716	1,284
Offshore	74	122	77
Total	979	1,838	1,361

F.2 GENDER

	2008/9	2009	2010
Males Offshore	74	122	77
Males Onshore	483	1234	952
Total Males	557	1,356	1,029
Females Offshore	0	0	0
Females Onshore	422	482	332
Total Females	422	482	332
Total	979	1,838	1,361

F.3 NATIONALITY

	2008	2009	2010
Namibians	972	1830	1357
Foreigners	7	8	4
Total	979	1838	1361

F.4 CATEGORIES			
	2008	2009	2010
Namibian			
Perm	138	221	161
Seasonal	764	1539	1126
Casual	0	0	0
Temporary	70	70	70
Total	972	1830	1357
Foreigners			
Perm	7	8	4
Seasonal	0	0	0
Casual	0	0	0
Temporary	0	0	0
Total	7	8	4
Total	979	1838	1361
F.5 POSITIONS			
	2008	2009	2010
Administration	16	22	14
Captain (s)	6	9	5
Crew	39	70	45
Deck Officer(s)	6	10	6
Driver	0	0	0
Engineer(s)	14	22	14
General/Factory Worker(s)	531	1280	1224
Jetty Crew	0	0	0
Management	17	17	14
Officers	8	10	6
Other	270	310	33
Security	5	5	0
Shore Skipper / Technical	10	10	0
Skippers	10	10	0
Store man	1	1	0
Supervisor	45	60	0
Technician	1	2	0
Total	979	1838	1361
G. SEALS			
G.1 ONSHORE AND OFFSHORE EMPLOYMENT			
	2008	2009	2010
Onshore	81	81	80
Offshore	0	0	0
Total	81	81	80

G.2 GENDER			
	2008	2009	2010
Males Offshore	0	0	0
Males Onshore	81	81	80
Total Males	81	81	80
Females Offshore	0	0	0
Females Onshore	0	0	0
Total Females	0	0	0
Total	81	81	80
G.3 NATIONALITY			
	2008	2009	2010
Namibians	81	81	80
Foreigners	0	0	0
Total	81	81	80
G.4 CATEGORIES			
	2008	2009	2010
Namibian			
Permanent	8	8	8
Seasonal	73	71	72
Casual	0	2	0
Temporary	0	0	0
Total	81	81	80
Foreigners			
Permanent	0	0	0
Seasonal	0	0	0
Casual	0	0	0
Temporary	0	0	0
Total	0	0	0
Total	81	81	80
G.5 POSITIONS			
	2008	2009	2010
Administration	4	4	4
General/Factory Worker(s)	76	76	75
Management	1	1	1
Total	81	81	80
H. SEAWEED			
H.1 ONSHORE AND OFFSHORE EMPLOYMENT			
	2008	2009	2010
Onshore	80	80	80
Offshore	0	0	0

Total	80	80	80
H.2 GENDER			
	2008	2009	2010
Males Offshore	0	0	0
Males Onshore	45	45	45
Total Males	45	45	45
Females Offshore	0	0	0
Females Onshore	35	35	35
Total Females	35	35	35
Total	80	80	80
H.3 NATIONALITY			
	2008	2009	2010
Namibian			
	80	80	80
Foreigners			
	0	0	0
Total	80	80	80
H.4 CATEGORIES			
	2008	2009	2010
Namibian			
Permanent	80	80	80
Seasonal	0	0	0
Casual	0	0	0
Temporary	0	0	0
Total	80	80	80
Foreigners			
Permanent	0	0	0
Seasonal	0	0	0
Casual	0	0	0
Temporary	0	0	0
Total	0	0	0
Total	80	80	80
H.5 POSITIONS			
	2008	2009	2010
Administration	1	1	1
General/Factory Worker(s)	76	76	76
Management	1	1	1
Store man	2	2	2
Total	80	80	80

I. LARGE PELAGIC (PARTICULARLY TUNA AND SWORDFISH)			
I.1 ONSHORE AND OFFSHORE EMPLOYMENT			
	2008	2009	2010
Onshore	196	231	158
Offshore	340	497	435
Total	536	728	593
I.2 GENDER			
	2008/9	2009/10	2010/11
Males Offshore	340	497	435
Males Onshore	175	206	150
Total Males	515	703	585
Females Offshore	0	0	0
Females Onshore	21	25	8
Total Females	21	25	8
Total	536	728	593
I.3 NATIONALITY			
	2008/9	2009/10	2010/11
Namibians	412	585	505
Foreigners	124	143	88
Total	536	728	593
I.4 CATEGORIES			
	2008/9	2009/10	2010/11
Namibian			
Permanent	220	338	302
Seasonal	144	157	167
Casual	11	3	1
Temporary	37	37	35
Total	412	535	505
Foreigners			
Permanent	53	84	31
Seasonal	71	109	57
Casual	0	0	0
Temporary	0	0	0
Total	124	193	88
Total	536	728	593
I.5 POSITIONS			
	2008	2009	2010

Administration		4	4
Captain (s)	15	21	17
Crew	300	500	363
Deck Officer(s)	25	31	29
Driver	0	0	0
Engineer(s)	27	31	24
General/Factory Worker(s)	65	39	56
Management	9	12	16
Officers	17	44	19
Other	41	46	65
Security	5	0	0
Shore Skipper/ Technical	9	0	0
Skippers	10	0	0
Store man	2	0	0
Supervisor	10	0	0
Technician	1	0	0
Total	536	728	593

J. 1HORSE MACKEREL

J.1 ONSHORE AND OFFSHORE EMPLOYMENT

	2008	2009	2010
Onshore	8	111	125
Offshore	253	769	904
Total	261	880	1,029

J.2 GENDER

	2008	2009	2010
Males Offshore	247	744	875
Males Onshore	5	59	71
Total Males	252	803	946
Females Offshore	6	25	29
Females Onshore	3	52	54
Total Females	9	77	83
Total	261	880	1,029

J.3 NATIONALITY

	2008	2009	2010
Namibians	209	641	786
Foreigners	52	239	243
Total	261	880	1,029

J.4 CATEGORIES

	2008	2009	2010
Namibian			
Permanent	103	511	537

Seasonal	0	0	0
Casual	106	122	239
Temporary	0	8	10
Total	209	641	786
Foreigners			
Permanent	0	2	3
Seasonal	52	45	42
Casual	0	0	0
Temporary	0	192	198
Total	52	239	243
Total	261	880	1,029

J.5 POSITIONS

	2008	2009	2010
Administration	6	46	50
Captain(s)	2	8	8
Crew	201	503	608
Deck Officer(s)	2	28	35
Driver	0	39	45
Engineer(s)	8	147	154
General/Factory Worker(s)	0	0	31
Management	2	20	
Officers	10	16	14
Other	0	38	49
Security	4	4	4
Shore Skipper / Technical	10	10	10
Skippers	8	10	9
Store man	1	1	1
Supervisor	7	9	10
Technicians	0	1	1
Total	261	880	1,029

J.6 MARGINALIZED & DISABLED

	2008	2009	2010
Marginalized	0	0	0
Disabled	0	2	2
Total	0	2	2

Source: Ministry of Fisheries and Marine Resources, 2011 Employment Verification Report.

4.10 APPENDIX 2. NAMIBIAN FISH EXPORTS/IMPORTS

EXPORT TRADE STATISTICS ON FISH AND FISH PRODUCTS BY NAMIBIA BY MAJOR COMMODITY, NET-WEIGHT (KG) AND VALUE (N\$), PRELIMINARY.

HS AND COMMODITY DESCRIPTIONS

	2007		2008		2009		2010	
	Total Exports		Total Exports		Total Exports		Total Exports	
	Value	Net-Weight	Value	Net-Weight	Value	Net-Weight	Value	Net-Weight
030223: Fresh or chilled sole	110,362	4,050	373,657	16,972	3,010,344	124,912	2,051,911	101,205
030229: __Other fresh or chilled flat fish (excl. halibut, plaice and sole)	85,390,875	2,583,256	99,293,378	2,717,342	93,622,739	3,007,882	83,234,218	3,205,244
030231: Fresh or chilled albacore or longfinned tunas	21,187,196	500,211	20,934,108	453,259	15,752,535	314,330	857,102	23,573
030239: --Other albacore or longfinned tunas	3,293,387	225,612	8,041,647	363,923	107,207	6,576	139,468	9,983
030261: Fresh or chilled sardines, brisling or sparts	19,358	442	225,534	138,660	1,408,587	146,902	163,706	5,938
030264: Fresh or chilled mackerel	1,744,269	161,619	4,512,519	881,275	14,265,297	876,898	44,153,079	1,609,801
030269: Fresh or chilled fish, nes	30,024,607	976,199	9,971,850	553,934	12,230,838	294,454	30,600,070	937,372
030319: OTHER SOCKEYE SALMON	297,746	27,437	312,901	1,315	21,137	245	120,224	1,400
030333: --Sole (SOLEA SPP)	1,449,873	51,227	1,735,254	82,023	3,244,624	144,797	5,122,840	233,376
030339: --Other halibut	8,910,450	117,303	28,699,628	372,048	8,852,911	144,103	182,886	3,035
030341: --Albacore or longfinned tunas (THUNNUS ALALUNGA)	20,470,776	58,321,869	30,340,062	1,486,594	124,846,674	5,009,086	49,288,045	2,185,129
030342: --Yellowfin tunas (THUNNUS ALBACARES)	1,446,390	65,998	201,595	14,573	1,585,572	33,172	888,513	56,149
030344: --Bigeye tunas (THUNNUS OBESUS)	667,618	50,209	9,174	558	1,142,167	32,203	1,316,199	81,547
030349: --Other albacore or longfinned tunas	4,867,304	368,601	13,720,663	648,722	1,898,437	31,636	11,318,560	1,687,500
030361: Frozen swordfish (XIPHIAS GLADIUS)	963,561	16,785	516,802	52,852	11,953,596	354,039	13,565,258	345,999
030371: Frozen sardines, brisling or sprats	19,223,499	2,965,744	12,483,733	820,538	2,619,225	220,976	12,892,227	1,217,319
030374: Frozen mackerel	357,630,829	69,396,711	591,342,951	929,323,696	795,396,383	120,219,178	1,022,993,693	89,778,386
030375: Frozen dogfish and sharks	30,740,317	2,724,066	22,271,091	1,820,384	40,397,278	1,957,132	45,126,948	2,838,848
030378: Frozen hake	1,575,420,091	109,956,747	1,784,240,904	63,244,910	1,016,363,707	34,088,819	325,711,226	16,190,598
030379: Frozen fish, nes	211,427,376	13,321,758	215,119,549	21,867,431	455,892,559	18,248,388	604,487,402	33,240,291
030411: Fresh or chilled swordfish (XIPHIAS GLADIUS)	0	0	62,117	2,095	17,982	418	635,695	10,185

EXPORT TRADE STATISTICS ON FISH AND FISH PRODUCTS BY NAMIBIA BY MAJOR COMMODITY, NET-WEIGHT (KG) AND VALUE (N\$), PRELIMINARY.

HS AND COMMODITY DESCRIPTIONS

	2007		2008		2009		2010	
030419:Fresh or chilled -- other	49,240,849	1,048,670	129,000,002	3,178,750	124,068,453	4,067,814	41,813,036	1,503,170
030421:Frozen fillets swordfish (XIPHIAS GLADIUS)	3,393,892	233,783	936,634	130,510	28,701	882	3,558,133	288,314
030422:--Toothfish (DISSOSTICHS SPP)	303,195	20,299	0	0	0	0	514,401	37,295
030429:Frozen fish fillets -- other	420,358,159	12,260,407	799,131,195	21,140,980	1,383,831,584	35,860,549	1,988,645,511	57,632,420
030491:Other -- swordfish (XIPHIAS GLADIUS)	2,335,925	160,391	1,511,033	100,309	5,210,836	51,627	832,535	55,070
030492:--Toothfish (DISSOSTICHS SPP)	179,219	5,580	0	0	0	0	351,933	20,010
030499:--Other	184,251,673	43,270,334	303,161,486	34,149,265	281,113,176	34,486,337	311,523,819	41,535,395
030510:Flours meals and pellets of fish,fit for human consumption	7,101,186	466,266	6,303,660	381,883	1,941,189	151,977	4,929,091	389,519
030520:Livers and roes, dried, smoked, salted or in brine	0	0	0	0	27,026	2,011	465,261	977
030530:Fish fillets, dried, salted or in brine, but not smoked	580,345	55,022	191,561	4,791	11,418	169	1,143,412	39,781
030549:Smoked fish (excl. salmon and herrings)	582,304	172,112	161,669	5,930	75,896	941	111,658	1,123
030559:Dried fish, not smoked (excl. cod)	376,213	107,770	6,443,409	432,681	32,913,294	873,738	29,953,242	1,052,341
030569:Other fish salted or in brine but not dried or smoked, nes	4,434,177	299,895	9,858,092	623,694	8,775,708	496,055	9,638,405	588,396
030611:Frozen rock lobster and other sea crawfish	21,717	877	81,428	616	7,087	38	2,597,384	15,440
030612:--Lobsters (HOMARUS SPP)	25,884,966	155,965	49,289,502	229,330	20,165,929	165,854	6,638,833	43,576
030613:Frozen shrimps and prawns	439,202	6,896	551,515	6,589	921,417	10,870	767,387	15,053
030614:Frozen crabs	35,524,261	1,019,313	40,830,877	937,922	28,562,328	802,657	35,657,183	1,159,223
030621:Rock lobster and other sea crawfish (excl. frozen)	1,852,525	5,760	140	10	571,414	3,045	1,809,959	9,205
030622:Lobsters (HOMARUS SPP)	0	0	6,072	27	11,584	50	392,097	1,568
030623:Shrimps and prawns	52,828	994	97,997	1,903	247,615	3,024	170,393	3,802
030624:--Crabs	8,572	559	9,287,482	326,157	41,196,770	830,977	22,984,650	717,923
030710:-Oysters	13,631,702	415,153	13,714,499	476,207	11,642,931	361,221	11,290,157	339,182
030721:--Live, fresh or chilled	1,170,619	14,880	798,011	12,014	289,758	4,374	904,742	12,845

EXPORT TRADE STATISTICS ON FISH AND FISH PRODUCTS BY NAMIBIA BY MAJOR COMMODITY, NET-WEIGHT (KG) AND VALUE (N\$), PRELIMINARY.

HS AND COMMODITY DESCRIPTIONS

	2007		2008		2009		2010	
030739:--Other mussels	126,853	13,737	75,672	1,222	87,161	1,537	82,403	31,456
030741:Cuttle fish and squid, live, fresh or chilled	94,861	25,782	3,953	110	610,429	35,694	435,415	13,497
030749:--Other cuttle fish and squid	1,172,581	102,432	2,182,738	177,886	28,065,109	772,847	68,742,982	1,820,915
030759:--Other octopus	884,693	49,783	2,841,555	165,267	2,481,559	88,229	782,508	34,881
030791:Aquatic invertebrates (excluding crustaceans),live, fresh or chilled,nes	507,011	17,662	30,290	2,045	1,195,328	5,470	203,702	1,424
TOTAL	3,140,038.374	322,185.757	4,228,873.584	1,087,512.642	4,581,966.042	264,527.436	4,804,168.871	261,307.590

Source: National Planning Commission, Central Bureau of Statistics, September 2011.

5 BASELINE REPORT: ANGOLA

Nkosi Luyeye

5.1 INTRODUCTION

Angola made a commitment to implement an Ecosystem Approach to Fisheries (EAF) at the World Summit on Sustainable Development (WSSD) held in Johannesburg, South Africa in 2002. The FAO Technical Guidelines for Responsible Fisheries (Rome, 2003) and the FAO Code of Conduct for Responsible Fisheries provide guidance on translating economic, social and ecological policy goals into operational objectives, indicators and performance measures. They do not replace but extend current fisheries management practices, which require broadening to include biotic, abiotic and human dimensions of ecosystems (Garcia and Cochrane, 2005a; 2005b).

This report is part of a suite of regional reports that describe the fishing activities and socio-economic conditions pertaining to artisanal fishing sectors along the Angolan coast component of the Benguela Current Commission (BCC). This report relates particularly to the Angolan artisanal fisheries sector.

The project's goal is to gather all information related to the identified framework of the human dimensions of artisanal fisheries in Angola. To this end, the project uses a framework of six human dimensions of EAF: institutional, social, economic, cultural, political and conflict. The last dimension was added during the two-day country workshop held in May, 2011, Luanda Angola.

This report focuses on fisheries information pertaining to the artisanal fishing sector (i.e. those fisheries operating within 4 km of the shore), as well as on socio-economic information related to artisanal fishers and fishing communities along the Angolan coast. The fundamental objective of the report is to provide an overview of available information that is relevant to the future management of this sector; to evaluate the adequacy and usefulness of the information collected; and to assess the type of analyses that might be undertaken in order to improve management and ensure the sustainable use of the marine resource base. Fisheries information has mainly been obtained from the IPA database, though secondary sources have also been used.

Information on fishing communities is sometimes obtained from samplers who are stationed at 65 fishing communities. Although their focus is on gathering information on fish catches, they are also able to gather important socio-economic information. The fish catches, the effort and the socio-economic information are stored at IPA. For the moment only catch data and fishing effort

are analysed during the formulation of the internal report which is submitted to the Secretary of Fisheries and the Minister of Agriculture, Rural Development and Fisheries.

In addition, IPA representatives working in the seven provinces can record information on socio-economic characteristics and conditions of fishing communities. However, this socio-economic data has not been systematically captured, analysed and documented. Information presented in this report is not complete due to the weakness of the record system in the seven provinces. As mentioned above, the IPA collects catch data, fishing effort and socio-economic data. Most of the data collected do not provide a true picture of fishing activities, owing to the weak coverage of the sampling process. That means the quality of the data cannot be considered a good indicator for management purpose.

5.2 OVERVIEW

The Republic of Angola, located on the west coast of Africa, is a large country with a land area of 1,246,700 km² and a coastline of 1,650 km. The country is richly endowed with natural resources, including a variety of mineral deposits, in particular oil and diamonds; fertile soils; and a highly productive marine ecosystem. Although the fishing industry produces only 3% of Angola's GDP and employs approximately 4% of its labour force, it produces an important share of the staple foodstuffs of the country. Furthermore, it contributes to the livelihoods and food security needs of several thousand coastal dwellers (IPA, 2008).

Angola is the northern-most BCC country. The southern part of the country is directly affected by the Benguela current, although high levels of productivity are maintained along the entire coastline in response to oceanographic events related to the presence of the current and its interaction with the warm Angola current. Artisanal fishing activities take place along the entire length of the 1,650 km coastline.

Artisanal fishing has a long tradition in Angola, both along the coast as well as in the inland water bodies of the country. In Angola, artisanal fishing activities are defined as those fishing activities carried out within four nautical miles of the shore by boats up to 14 metres in length with little capacity for processing or freezing the catch (Agostinho et al., 2005). Artisanal fisheries activities extend along the entire coastline of Angola.

After independence in 1975, pressure on near shore fish resources steadily increased because there were very few alternative livelihood options (Agostinho et al., 2005). Its fundamental significance resides in its contribution in terms of job creation, livelihoods and food security of the population. Following the post-war period, the government has increasingly recognised the value of this sector, and has shown significant interest in supporting the development of the artisanal fishing sector. With that aim, the government bought a huge number of small boats in order to support the fishers. The supply of the boats was achieved through loans with low interest rates. Unfortunately, most of the boats are no longer in use, owing to the bad quality of the engines. This problem is causing several challenges to most of the fishers along the entire coast, putting them in a difficult situation for the loan repayments.

The fish capture by the artisanal fisheries sector represents about 20% of the total weight of fish captured in 2001 and about 39% in 2003 (Progress report, 2006), and it is estimated that its annual contribution towards the national economy is about US\$70 million (Agostinho et al., 2005).

Along the coast, there are currently 200 organised artisanal fishing communities, of which 38 are organised in co-operatives. The greatest number of these is found in the northern provinces of the country. In these communities, men generally go to sea and catch the fish, while women perform most of the activities related to the processing (IPA, 2010). Between 130,000 and 140,000 people are engaged in artisanal fishing and related activities (Progress report, 2006). Fishing takes place from canoes, chatas (planked boats) which may or may not have an engine, and catrongas (whaleboat types) which have an inboard engine. Artisanal fishing methods typically include the line fishing method, beach seine, gillnet, trammel and poling for tuna. During the cold season (June-September) in some provinces, fishers use a small seine called in Portuguese “RAPA”. This new practice of seining is not permitted, under the Law of Biological Aquatic Resources, because of the size and the lack of adequate equipment in the planked boats. The new practice can be considered ‘small purse seine’ according to the size of the net and the boat used for fishing. The most serious constraints on artisanal fishing are mainly a result of the following factors: the absence of cleaning, storage and processing facilities at landing sites; the lack of infrastructure that would allow access to wider markets; and the limited financial capacity of the fishers (Agostinho et al., 2005).

Artisanal fisheries management focuses mainly on the implementation of a monitoring and data capture programme that indicates the extent of the total artisanal catch and fishing effort along the Angolan coast (Agostinho et al., 2005). Since 1996, the artisanal fishery

sector has been monitored by a sampling programme based at a number of the fishing communities along the coast. Currently 55 fish-landing beaches are monitored. Data collected by monitors include total catch by the vessels on each beach, species-specific catches, and effort data (time, number and type of boats at sea). These data are entered into a fisheries database (ArtFish) designed by FAO fisheries scientists (Stamatopoulos, 2004), and allow a fairly sophisticated level of data analysis. However, while some analyses are undertaken annually, there appears to be a lack of understanding of relevant analyses that would allow more effective use of the data and system (Agostinho et al., 2005).

Since the ceasefire in 2002, population mobility has increased, and population growth is becoming a serious social problem. People are looking for opportunities in order to survive. However, a huge percentage of the population is illiterate and the only opportunity for making a living is to move into agriculture and fisheries. Income generation from fisheries is quicker than from agriculture, where the harvest can take months or a year.

5.2.1 TARGET GROUP

The primary target group consists of poor men and women involved in fishing and related activities, for which fishing and fish products are the principal source of livelihood and often the only source of cash income. A secondary target group comprises poor households that will benefit directly from project activities (e.g. as members of savings and credit groups, and as contract workers for road construction), but are not necessarily involved in fisheries. A third group is made up of relatively well-off people and of institutions, both critical to value chain functioning.

5.3 INSTITUTIONAL DIMENSIONS

5.3.1 POLICIES/LEGAL FRAMEWORK

The present legal framework comprises the Fisheries Law from 1992, which was revised in 2004, and several other regulatory documents dealing with fisheries planning and management (Decree no. 9/06, 6th June 2006), fishing vessels and fishing companies (Decree no. 41/05, 13th June 2005), and fisheries surveillance and quality control (Decree no. 14/05, 3rd May 2005 and Decree no. 39/05, 6th July 2005). In recent years, national authorities not only acknowledged that existing legislation was outdated, but also that it did not reflect international and regional developments in the sector, and was sometimes incoherent and contradictory mainly due to the existence of several autonomous and unrelated laws (Fisheries Law, 1992).

The political will of the previous Fisheries Minister, together with international support, allowed for the full revision of the fisheries legislation. In 2003, a new law was

drafted: the “Lei dos Recursos Biológicos Aquáticos” (Law of Aquatic Biological Resources, 2004) that established new principles and provisions regarding the sustainable management of aquatic resources. This new legal regime reflects international and regional developments in the sector, including the need to integrate the management of marine resources with other national policies. This new law has been approved by Parliament and is being enacted.

To make the new legal regime enforceable, certain issues required further regulations to be promulgated, namely with regard to surveillance, research, recreational fisheries and licensing. New regulations covering these areas, as well as a general fisheries regulation, have been drafted and approved (Progress report, 2006).

The Angolan legislation differentiates between artisanal fisheries and subsistence fisheries, based on the objective of the fishing activity: for direct consumption by the fisher’s family or for commercial purposes. The legislation distinguishes commercial from non-commercial fisheries, and establishes the following types of non-commercial fisheries in accordance with their purpose: subsistence, research, and recreational (Art. 4º, Law of Aquatic Biological Resources, 2004).

In terms of commercial fisheries, the legislation establishes that the distinguishing criteria between artisanal and industrial fisheries is fixed by regulation taking into account the characteristics of the fishing vessel, catching capacity and autonomy as well as other social, economic and technical criteria (Art. 5º). The following main types of fisheries are defined:

- Subsistence fishery;
- Artisanal fishery using vessels of up to 10 m in length (extended to 14 m in the new Law);
- Semi-industrial fishery using vessels of between 11 m and 25 m in length;
- Industrial fishery using vessels of over 25 m in length.

5.3.2 ACCESS/USE RIGHT

The rights of fishers are protected by the government, particularly for artisanal fishing. In Angola, artisanal fishery is reserved exclusively for Angolan citizens. Angolan citizens must have a fishing license. The fee is paid by trimester according to the size of the canoe (from 4 to 14m) and the license is annual. Without this license, the activity is illegal.

The IPA is the institution in charge of promoting and developing the artisanal fisheries and, as such, artisanal fishing licence requests are directed to IPA, however the fishing licence certificate is issued by the National

Directorate of Fisheries and Aquaculture. The money accrued from the fishing license is deposited into the bank account of the Fund Support to Fisheries Industry, and the main manager is the Minister.

Three factors directly regulate the activities of artisanal fishers: (1) the length of boat used, (2) the distance from shore where fishing activities can take place, and (3) a mesh size limitation for gill nets, although this is seldom enforced. Although artisanal fishing boats require an annual licence, the fishery is open access with few other limitations relating to gear, catch, timing or area.

5.3.3 FISHING METHOD

Fishing operations appear to vary from one community to another, and the number of fishers per boat varies along the coast. Gillnets may be set in the late afternoon and collected the following morning. Aside from the education campaigns that have been undertaken with the fishers, the IPA has, since 2001, initiated another campaign to promote the use of insulated iceboxes that are being provided on a credit basis in order to improve the quality of fish landed. The use of ice is for preserving the fish after capture, and is practised by some groups of fishers from fishing communities situated near cities such as Cabinda, Luanda, Porto-Amboim, Benguela (Baia-Farta) and Namibe. Private enterprises that deal with artisanal fishers provided this ice in the past, however, it will be now provided by the Support Centres of Artisanal fisheries, constructed in the seven provinces and funded by the African Bank for Development.

5.3.4 COMMUNITY INSTITUTIONS

Along the coast there are 200 organised artisanal fishing communities, with the greatest number found in the northern provinces of the country, namely Zaire (55) and Cabinda (17) (see Table 5-1). About 188 communities are already set up from Cabinda province to Namibe province, with high potential for expansion. This means there will be more communities in the near future owing to the lack of jobs in the public and private sectors. A considerable number of these communities have their fishers organised in co-operatives, associations and pre-co-operatives (Table 5-1). The cooperative is a group of fishers living in the same community with equal rights and equal opportunities. A cooperative may comprise of between 10 and 25 persons. An association is a group of cooperatives living in different communities, but with common objectives, and the pre-cooperative is a group of fishers intending to form a cooperative.

Artisanal fisheries are exclusively reserved for Angolan citizens and most of the fishing communities are comprised of people from the same tribe and province. However, people from different tribes and provinces may live in the

same community, as a result of the civil war. Co-operatives are formed according to the Associations Law no. 14/91 of 11th May, which is an adaptation. Meanwhile the Co-operatives Law has not yet been enacted. Normally a

co-operative cannot exceed 25 members, and cannot be fewer than 10. The co-operative in principle should have one president, vice-president, accountant and advisors.

TABLE 5-1. Fishing communities along the Angolan coast Source. Census, IPA, 2010

Cabinda (17)	Zaire (55)	Bengo (11)	Luanda (19)	K. Sul (24)	Benguela (47)	Namibe (12)
Labi	Madeira	Ambriz sede	Barra do-Kwanza	Torre do-Tombo	Damba Maria	Porto-Pesqueiro
Luvassa	Impanga	Kinkakala	Buraco	Gilco	Quióche	Lucira
Funga	Tombe	Yembe	Ramiro	União	Casseque-Marítimo	Saco Mar
Caio	Kungu	Pambala	Miradouro da-Lua	Ngola Lombo	Santo António	Mucuio
Lombo-Lombo	Kipai	Barra do Dande	Benfica	Calele	Caota	Praia Amélia
Chinga-Chiazi	Kivanda	Catumbo	Areia Branca	Hougiua	Kawango	Carunjamba
Futula	Ntampa	Cabo Ledo	Imbondeiro	Rio Cuvo	Kapiandalo	Foz do rio-Bero
Buço Mazi	Bocolo	Sobe e Desce	Corimba	Kiassala	Goa	Tômbwa-Sede
Malembo	Libi	Sangano	Prior	Kitoba	Egipto Praia-sede	Tômbwa Sul
Cacongo	Zola	Kitoba	Chicala I	Rio Tapado	Compão	Rocha Nova
Bembica	Fundão	São Brás	Chicala II	Frimar	Lobito Velho	Pinda
Tchafi-tungo	Tulombo		Lelo	Salinas	Cabaia	Praia da-Sancada
Landana	Kimpula		Ponta	Carimba	Catumbela-Praia	
Chicaca	Kimbumba		Salga	Dengue	Chimbala	
Sangu-Simuli	Mongo Soyo		Bairro	Praia de-Sousa	Rio Tapado	
Techississa	Mpangala		dos-Pescadores	Chitamba	Cuhula	
Massabi	Kitona		Otanganga	Kibenjulo	Munry	
	Kifuma		Puri	Kicombo	Praia Grande	
	Lulombe		Barra do-Bengo	Tambi	Binge	
	Kimbriz		Praia de	Barrote	Chiundy	
	Kintoto		São-Tiago/Sarico	Cabeça de-Baleia	Hanha	
	Kinvika			Wembele	Jomba	
	Kinkoxi			Chicucula	Praia Bebé	
	Kinxia			Pepe	Cachiva	
	Mangue-Grande				Baía Farta-sede	
	Moita Seca				Vitula	
	Kavuge				Senga	
	Kacongo				Macaca	
	Kinzau				Chamume	
	Kazai				Calomobolo	
	Kinsala				Tchiome	
	Mukula				Gengo	
	Kinzanza				Tenda Grande	
	Ngungula				Saco	
	Kifinda				Farol	
	Muangu				Cuio	
	Kinkatu				Tchituca	
	Kingombo				Noto	
	Luvamba				Nhime	
	Minsanga				Lua	
	Ngoma				Equimina	
	Mafinda				Elefantes	
	Povo Luanda				Limagem	
	Kinsikisilu				Binga	
	Kimpanga				Meva	
	Muanda				Pássaros	
	Kikandi				Catara	
	Nzeto sede					
	Musserra					
	Luveve					
	Kintalangua					
	Kissamba					
	Kivungu					
	Kiloma					
	Mulunga					

5.3.5 INSTITUTIONAL LINKAGES

Artisanal fisheries is narrowly linked with the Fisheries Research Institute (INIP), and the University of Agostinho Neto (UAN), in particular the Department of Biology at the Faculty of Science. The IPA is also linked with all communal and municipal administration in the seven coastal provinces.

The artisanal fishery is a sub-sector of the fisheries sector dealing with a huge population largely represented by poor people. This sub-sector interacts with several stakeholders, namely Port Authorities, the National Service of Surveillance, the National Directorate of Fisheries and Aquaculture and local authorities at the provincial, municipal and communal level. No further data available.

5.3.6 ENFORCEMENT AND COMPLIANCE

The Directorate of Surveillance (Direcção de Fiscalização) ensures compliance with existing laws and regulations and is located within the central services of the Ministry of Agriculture, Rural Development and Fisheries. The staff comprises 429 persons, including supervisors and the surveillance vessels' crews.

No further data available.

5.4 SOCIAL DIMENSION

5.4.1 GENDER

In general, women do not go to sea but perform most of the activities related to the processing, preservation and sale of the fish. Women have a greater involvement in inland fishing activities, especially in small rivers and lagoons. The participation of women in the co-operative movement is still weak, as highlighted in the following table (Table 5-2).

TABLE 5-2. Gender composition of co-operatives, associations, and groups of economic interest (GEI)

PROVINCE	DISTRICT	COMMUNITY	DESIGNATION (NAME)	COMPOSITION	
				Men	Women
Cabinda	Cabinda	Lombo-Lombo	Assoc.pescadores de Malembo-Chinfuca	115	
			Assoc.pescadores de Futila-Mbuco Mazi		
			Assoc.de Cabinda (APESCAB)		
			Assoc. de Landana (AVOPESCA)		
Zaire	Soyo	Lucata	GEI Tuzolana	33	1
			GEI Angola Nova	16	
			GEI Kipai 1	10	
	Tomboco	Kinzau	GEI Kintuadi	18	1
			GEI Luzolona	15	
			GEI Esperanca	12	
			GEI Ntemu a Kazai	14	
			GEI Kinsala	18	
			GEI Saka	25	
Bengo	Kissama	Caboledo	Coop. Pescadores Cabo Ledo (COPESCALDO)	39	1
			Coop. Pescadores/Amadores da Kissama	40	
			Coop. da Boa Esperanca	50	
			Coop. Nosso Sonho	40	
			GEI Longa	30	
	Dande	Barra do Dande	Coop. Pescadores Barra D, SCRL (Mukengueji)	16	4
			GEI Ulua	30	
			GEI Longa	30	
	Ambriz	Ambriz	Coop. Sanga Kia Nganga Ponta	60	
			Coop. Nfinda Moyo (Kinkakala)	40	
			Coop. Pescadores Yembe	40	
	Catete	Ombo	GEI Ombo	30	

PROVINCE	DISTRICT	COMMUNITY	DESIGNATION (NAME)	COMPOSITION	
				Men	Women
Luanda	Samba	Buraco	Coop. Pescadores do Buraco	130	
		Camuxiba	GEI Camuxiba	30	
		Areia	GEI Areia branca	30	
		Branca	GEI Macoco	30	
		Macoco			
		Miradouro da Lua	GEI XXX	45	14
	Cacuaco	Hotanganga	Coop. Hotanganga	31	
		Sarico	Coop. Pesca Artesanal Paz	30	
		B. Pescador	Coop. Pescadores de Kilamba Kiaxi	30	
		B. do Bengo	GEI	46	
		Pure	GEI Barra do Bengo	30	
		Trabalho em luta	GEI Pure	30	
			GEI Trabalho em Luta	30	
	Ingombota	Ilha do Cabo	Coop. Pescadores Ilha de Luanda (COPIL)	48	2
		Casa Lisboa	GEI Casa Lisboa	30	
		Boavista	GEI Boavista	30	
			Família Chiminia	15	4
	Sambizanga	Sao Pedro de Barra	GEI Sao Pedro da Barra	30	
	Viana	Calumbo	GEI Calumbo	30	
		Tombo	GEI Tombo	30	
K. Sul	P. Amboim	Zona Norte	Coop. Pescadores Artesanais (CAT)		
		Gilco	Coop. das Mulheres Transformadoras	36	
		Gilco	Coop. Comerciantes do Porto Amboim	80	
		P. amboim	Coop. Pescadores do Porto Amboim	30	
		Bambala	GEI de Bambala		
	Sumbe	Quicombo	Coop. Boa Sorte	78	
		Quicombo	Coop. 7 de Julho		
		Quicombo	Coop. Pescadores do Quicombo		
		Ngangula	GEI Ngangula	30	
Benguela	Benguela		GEI Golalombo	30	
			GEI Gilco	45	12
Benguela	Benguela		Coop. Pescadores Artesanais (COPECA)		
			Coop. Pesca Artesanal de Apoio as Comunidades	105	43
			Coop. Agro-pecuaria e Pesca (CAPACDA)		
			Sociedade de Apoio a Pesca Artesanal (SOCAPABE)		
Benguela	Lobito		Coop. Agro-pecuaria de Pesca Egipto praia (CAPEP)		
	Baia Farta		Coop. Pescadores da Vitula	70	2
Namibe	Namibe	Saco Mar	Coop. Pescadores Kilamba Kiaxi no Coracao	32	
		Namibe	Coop. Pescadores do Namibe		
		Saco Mar	Coop. Pescadores Welwitchia		
		Praia	Coop. Mero		
		Amelia			
	Lucira	Lucira		32	7
Total				1,994	118

As in many African countries, women in Angola represent up to 80% of the workforce in the activities mentioned above, such as processing and sale of fish (Progress report, 2006). Competition for access to fish at the disembarking places is high.

There is very little information on the socio-economic circumstances as well as the roles and responsibilities of

women involved in the artisanal fisheries sector. The only information collected on gender is the actual numbers of women involved in the fish processing. In addition, there is little documented information on the needs of fish workers and the difficulties they experience in participating in this sector.

In terms of education, the IPA has been engaged in

capacity building and education sessions to encourage the involvement of women in the artisanal fisheries sector (Progress report, 2006). In doing so, the IPA has promoted the following actions:

- Providing incentives for projects linked to the development of artisanal fishing;
- The organisation of women processors and sellers into co-operatives, associations, etc.;
- The promotion of micro-credit;
- Capacity building amongst women who process fish to improve technologies for processing and transformation (construction of ovens and bunks for the smoking and drying of fish etc.);
- Improvements to the system of commercialisation of the fish (with the construction of benches for display, for the sale of fish in acceptable hygienic conditions);
- The inclusion and in places, employment, of women in the gathering of fishing data.

5.4.2 RELIGION

In many communities, the church plays an important role in the community. However, the church does not contribute to the development of social service infrastructure such as building schools and hospitals. No further information available.

5.4.3 LIVELIHOODS, PRACTICES, OPTIONS AND STRATEGIES

Lack of baseline data; limited information in grey literature, including BCLME reports.

5.4.4 HEALTH

To date there are no statistics, and no specific health studies appear to have been conducted in the artisanal communities.

The system and quality of health care are generally very poor or non-existent in the communities. In most of the communities, about 95% do not have even a first aid clinic. In addition, most of the products derived from fish sold at the beach can serve as the entry point for pathogen such as cholera, causing health problems for the population (Agostinho et al., 2005).

The consumption of alcohol has opened the way for sex abuse, which in turn impacts on the number of persons living with HIV-AIDS. Information such as this is recorded through communication during interviews in

the communities; however, IPA does not record statistics about alcohol and the link to AIDS. Information on AIDS does exist at national level in the 18 provinces. Because of the importance of the artisanal sector to the country's economy in terms of food security, it is very important to set up a specific programme on artisanal fisheries and problems associated with HIV-AIDS in communities and at disembarking points. Fishers are particularly vulnerable to HIV-AIDS owing to the low level of education and the low priority given to this sector by decision makers.

5.4.5 EDUCATION

In September 2000, the Angolan Deputy Education and Culture Minister Francisca Do Espirito Santo said that approximately 60% of the country's adult population is illiterate. Two-thirds of those adults who could not read and write were women (IRIN, 2000).

There is a lack of baseline quantitative information on fisher communities.

5.4.6 FOOD SECURITY

According to the statistics of IPA the total catch landed in 2010 for the seven coastal provinces was about 102,038 tonnes. It is assumed that this represents only about 30% of all catches along the Angolan coast due to under-reporting. Data are collected every day except Saturday and Sunday.

The consumption per capita along the seven coastal provinces is about 17 kg/year, and countrywide is about 13 kg/year. The total amount of fish exported is about 11,931 MT representing US\$20,342,000 (Progress report, 2006).

5.5 ECONOMIC DIMENSION

In general, artisanal fisheries are not the priority in terms of economic sectors in many coastal countries. Angola has been no exception. However, since 2000 there has been a shift in this due to the value of the product caught and the increasing number of people involved in this sector of the local economy.

5.5.1 EMPLOYMENT

The artisanal fishery is a very important sub-sector for socio-economic dimensions in Angola because of the numbers of people involved in it, directly and indirectly.

There are around 200 coastal communities with 50,000 people, including fishers, fish processors and others contributing indirectly to this sector (e.g. the ones helping the fishers and the women processors). According to the new Programme set up by the Government called

“Programa de Combate à fome e redução da Pobreza” (IPA, 2010), the artisanal fishery sector currently has priority due to the increasing number of fishers, including both coastal and freshwater (IPA, 2010). In the past, owing to the civil war, freshwater fishing was almost impossible. Now the number of artisanal fishers along the coastal area and those engaged in freshwater fishing is more than 100,000 people.

Fishing activities depend on the season. In maritime fishing, the greatest number of jobs (more than 60%) is provided by enterprises based in the provinces of Luanda and Benguela. In the other provinces employment is mainly confined to small-scale local fishing, with artisanal fishing being the main employer. If the fishers that help to operate beach seines are included, the total number of people engaged in coastal fishing activities amounts to between 130,000 and 140,000, without taking into account those who work in the areas of distribution and commerce. There are about 50,000 inland fishers (IPA, 2007).

The census conducted in 2010 by the IPA indicated that the number of artisanal fishers along the coast is about 25,000, including women, with other people involved in fishing activities (for instance helpers). Information collected includes data on numbers of different classes of boats, numbers of churches, numbers of schools and number of other public facilities. Adding the women and helpers, the total number of the people affected by fishing activities can be around 50,000. As artisanal fisheries also includes freshwater and lagoon fisheries, the number of people involved could reach as many as 150,000, owing to the hydrological potential in 18 provinces. Angola with its 18 provinces has 17 small and nine main rivers with good conditions for aquaculture, which is a new field that can be explored and expanded easily for fighting hunger and alleviating poverty.

5.5.2 ALTERNATIVE ECONOMIC OPPORTUNITIES

Little data available.

5.5.3 TRADE AND MARKETS

The main markets for fresh fish are the big cities and suburban areas along the coast. There are also some dealers who transport the fish to the large inland centres such as Lubango, Malange, Huambo, Uige, Lunda Norte, Lunda Sul and Moxico. The export of fish derived from artisanal fishing is mainly oriented towards neighbouring countries to the north of Angola, namely the DRC and the Republic of the Congo. The European Union and Korea buy some of the best fish, as well as shark fins.

Research undertaken in the market of the city of Luanda,

on the island in Cacuaco and in the Samba municipality, indicates that good quality fish and crustaceans do not have a fixed price. Prices vary as a function of supply and demand, particularly for small pelagics that are unloaded in great quantities. However, the average price of 10 USD/kg can be maintained for higher value species such as dusky grouper, croaker and southern meagre. This average price is slightly lower in the southern provinces such as Benguela and Namibe, probably owing to the weak buying power of the local populations. Lobster sells for 15-25 USD/kg. The price of a box of 30 kg of fresh horse mackerel is negotiated and will range between 40 and 60 USD, a box of sardinellas between 30 and 40 USD.

The trade of fish at the artisanal fisheries is not well organised and most of the fish caught are sold at the beach under unsanitary conditions. The poor quality of the fish and the products derived from it means that prices are low. The result is a vicious circle in which yields remain small and of poor quality because fishers do not earn enough income to invest in fishing and processing facilities to increase yield and quality. Although this issue is well known, no specific studies have been conducted to investigate these interactions.

Nonetheless, in 2008 the Government drew up policies for the construction of support centres for artisanal fisheries in order to improve working conditions, and borrowed money from the Development Bank of Africa (DBA) to build 10 centres for the support of artisanal fisheries in 7 coastal provinces (Cabinda, Zaire, Bengo, Luanda, Kwanza Sul, Benguela and Namibe) (IPA, 2008). The centres are completed and are equipped as follows: areas for processing fish, areas for drying fish, areas for repairing nets and engines, and areas with deep freezers. These centres should uplift the artisanal fisheries; however many of them do not have electricity to run the equipment and rely on generators. IPA is in charge of the running of the centres and is responsible for three main services: ice supply, technical assistance of the boats and gear, and capacity building for the fishers and their spouses.

5.5.4 ACCESS TO CREDIT

Since 2011, the Government has included the artisanal fishery subsector amongst the sectors allowed to benefit from credit. There are two types of credit: the first is up to US\$5,000.00 and the reimbursement is up to 10 months with 5% of interest. The second one is up to US\$500,000.00 and is targeted at cooperatives or even individuals with well-performing projects (e.g. aquaculture). For this second type of credit, the interest rate is up to 6.7%, and the timeframe for repayment is up to 8 years with three grace years. The credit is provided through the Executive Decree promulgated by three

Ministries, namely the Ministry of Trade, the Ministry of Finance and the Ministry of Agriculture, Rural Development and Fisheries.

5.5.5 FLOW OF BENEFITS

The artisanal fishery is the part of the fish chain where the fish is caught by the fishers living in the small communities along the coastal areas. The catch is bought by women who process it or re-sell it fresh at the fish market. Most of the women dealing with fish processing or resale live in the city. The fish chain is formed by fishers, women fish processors or resellers and the consumers as the last component of the chain. Most of the fish markets do not provide sanitary conditions and the fish sold there lose value in term of quality and money. The new support centres of artisanal fisheries have the fish market component, which will probably solve this problem and add value to the fish caught by the fishers.

No further data available.

5.6 CULTURAL DIMENSION

5.6.1 LOCAL KNOWLEDGE

The skills of fishers vary from one community to another and from one province to another. According to culture, each province has its own local knowledge linked to its ancestral heritage.

5.6.2 CUSTOMARY FISHING PRACTICES AND INSTITUTIONS

Many communities across all provinces believe in marine spirits which can offer them fish in return for food and drink 'gifts' thrown into the sea, and many believe that the moon has a strong influence on the presence or the absence of fish during a certain period of the year.

5.7 POLITICAL DIMENSION

For the time being, the artisanal fishery is a priority activity according to the Government in terms of ensuring food security in the country. For this reason, a number of policies have been drafted in order to improve the conditions of fishers, such as the implementation of micro credit and the building of centres to support artisanal fisheries.

5.7.1 CONFLICT

This dimension was included during a lively discussion at the two-day country workshop held on 16 and 17 May, 2011, in Luanda, Angola. The discussion took place during the workshop attended by the representatives

of cooperatives, associations, National Directorate of Fisheries and Aquaculture and the regional consultant (IPA, 2011).

The first conflict identified was between artisanal fisheries and commercial fisheries (semi-industrial and industrial). During fishing operations, the commercial fisheries sometimes enter areas reserved for artisanal fisheries, destroying all gear (gillnets) belonging to the artisanal fishers and endangering the lives of artisanal fishers in small canoes (with some deaths recorded). Artisanal fishers can also invade the area of commercial fisheries, by moving out of the 4 nautical miles restriction.

The second conflict is very specific to two provinces, namely Cabinda and Zaire in the northern coastal area where there are considerable and fast-moving oil production activities underway. In a presentation by the NGO, AVOPECA of Cabinda province, where most of the oil production occurs, the conflict between the oil production activities and the fishing activities carried out by the artisanal fishers was highlighted. The increasing number of oil platforms has become an obstacle for artisanal fishers in several ways. Firstly, the artisanal fishers are prohibited from fishing within 1,000m of a platform. With the large numbers of platforms, a relatively small fishing area remains accessible to artisanal fishers. On occasion, fishers violate the prohibited area, causing delays to the oil production activity. Other problems include oil spills that affect the fish as well as the fishing gear. In some cases, oil spills can cause huge damage to the artisanal fisheries, polluting the area and affecting both water quality and fish.

5.8 CONCLUSION

The most serious problems in the artisanal fishing sector are attributed to the following:

- Absence of support infrastructure on land and particularly at landing sites;
- The weak development of fisher organisational structures, such as co-operatives, associations and fishing boat owners;
- Poor product processing facilities, and little product enhancement and commercialisation of the captured resources;
- Limited financial capacity of the fishers;
- High level of illiteracy.

There is a need to:

- Organise all fishers into cooperatives for better control;

- Strengthen capacity building within the communities;
- Strengthen the data collection programme;
- Strengthen the fish chain for food security and the well-being of the population.

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6 CONCLUSIONS AND RECOMMENDATIONS

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This report is a compilation of information drawn from the report on the human dimensions of small-scale fisheries in the BCLME region (Sowman, Cardoso, Fielding et al., 2011); the outcomes of key stakeholder workshops held in Walvis Bay, Luanda and Cape Town; and from baseline reports on data availability for human dimensions in all three countries (Russell 2011b; Sowman, Raemakers, Sunde et al., 2011; Luyeye 2011b). Different data sources are available in each country, ranging from national census data to fishery specific data to local case study data.

In South Africa, the SFTG Report (2000) provided a useful starting point but the information is now extremely outdated. This research process found that selected socio-economic information relevant to coastal communities (e.g. poverty, education, health, employment etc.) is available at different levels of governance. However, most of it is either outdated (from the census of 2001) or focuses on a large scale (at the provincial, regional or local municipal level), rather than the settlement or fisher community level. It thus has fairly limited value to EAF. Most data and information on human dimensions of small scale fisheries in South Africa are scattered in different academic, government and NGO documents and usually focus on particular areas or communities and a particular human dimension or set of dimensions (e.g. gender, livelihoods, customary rights). Although the Cape Town workshop reported that much information that will enhance understanding of selected human dimensions is being collected by DAFF, these data are neither analysed nor readily available. However, as a result of discussions at the Cape Town workshop, Dr Serge Raemaekers has worked with DAFF staff to set up a monitoring and data management system to facilitate ongoing collection and analysis of selected human dimensions information pertinent to small-scale fisheries.

In Namibia available human dimensions data are biased towards national and sector level economic data and analysis. There is very little socio-economic and socio-cultural information. Although more detailed economic and social data are gathered by the Policy, Planning and Economics Directorate of MFMR to inform the rights and quota allocation process, this information is not readily available and is difficult to access.

In Angola IPA collects some socio-economic data through the co-operative programme. Although surveys that focus on socio-economic aspects have been conducted since 1996, the information has not been systematically captured, analysed and documented. The absence of data

management and analysis procedures is due to lack of capacity, including the need for customized software.

Thus, information gaps regarding the human dimensions of EAF are prominent in all three countries. In addition, there is only minimal analysis of the data that are being collected. Some critical analysis is provided for the South African context, which is largely due to post-graduate research that has provided the opportunity to deepen the analysis and broaden the insight on 'human dimensions' in small-scale fisheries in South Africa.

6.1 RECOMMENDED STEPS

To enable decision makers in the BCC region to strengthen human dimensions of EAF in the decision making processes we recommend the following key steps:

a) Commitment by fisheries agencies to collect and utilize human dimension data in EAF

Despite the fact that all three countries have committed to adopting an EAF, none has an information management system in place to systematically collect and analyse socio-economic, cultural and institutional information required for such an approach. The recommendations emanating from this report should thus be made available to the relevant fisheries agencies and BCC and FAO should encourage them to be implemented.

b) Agree on the human dimensions information required for EAF and the process of data collection and management within each country

There needs to be agreement amongst fisheries agencies and resource users on the particular human dimensions that will be gathered in each country and at what level. It is not going to be possible to gather data for all the human dimensions categories listed in the framework, at least not in the short term. Hence, there needs to be a process to determine what minimum data are required for EAF. This needs to be done with the input of relevant stakeholders. Recognising the importance of stakeholder participation for the successful implementation of EAF, the BCC has already begun the process of engaging stakeholders in each country through the establishment of national inter-sectoral stakeholder groups. To enable appropriate stakeholder engagement it is necessary not only to list all groups that have an interest in fisheries and their management, but also to define the character of the respective stakes. Thus there is an urgent need to conduct a thorough stakeholder analysis in each country.

Once agreement on the required information is reached, a priority in all three countries should be the development of a comprehensive database for human dimensions. An essential requirement for operationalising human dimensions data in fisheries management is the identification of appropriate indicators for key human dimensions and the development of baseline data sets at the appropriate scale (fishing community/household level). Although some indicator work has been done there are currently no clear indicators e.g. for poverty or transparency. Moreover, many of the datasets are snapshots and not part of an ongoing data collection process. Some data are currently not in a format that can be easily operationalised. For instance, data to monitor and evaluate the transparency of decision-making processes or stakeholder participation may be gleaned from minutes and reports of meetings within and between government line ministries and stakeholders. However, collating this data will be time consuming, involving sifting through documents and extracting relevant agenda points for evaluation. Development of data sets to monitor key indicators will thus require a thorough meta data analysis, describing the format, scale, resolution and extent of data in detail.

c) Developing capacity and skills of fisheries agency staff to gather, analyse and manage relevant databases

In all three countries, the development of a human dimensions database will require different methods of data collection, such as conducting community meetings, interviews and surveys. This requires increasing social science capacity within fisheries management, including the training of data gatherers to ensure accurate data and the development of standards of research ethics. In South Africa DAFF has begun the development of a database for human dimensions of small-scale fisheries in close co-operation with the Environmental Evaluation Unit of UCT (Sowman, Raemaekers, Schell, 2011). During the Namibian human dimensions workshop (Russell, 2011a) a SWOT analysis of the Namibian fisheries sector based on the framework for human dimensions was suggested. Such an exercise might highlight potential avenues for the collection and curation of human dimensions data. However, improving the capacity and skills of fisheries agency staff to gather, analyse and manage these databases may require the appointment of social scientists in fisheries agencies. In the short term, the participation of staff in short professional courses that focus on social science methodologies should be facilitated.

d) Develop capacity for social-ecological research and analysis

In 2010 the BCC hosted and facilitated a workshop on “Scale, time and knowledge mismatches in the large marine social-ecological fisheries system of the Benguela Current”, which has been developed into a training module. There is a plan to repeat this module during 1st

quarter of 2013. This course should be formalised into a regular training session.

e) Gathering data at an appropriate scale

The inclusion of human dimensions data into fisheries management, as demanded by a shift towards an EAF, requires collation and analysis of data at the appropriate level. For small-scale fisheries in South Africa and Angola, this level is the fishing community. In the context of industrial fisheries, there is no community in the sense of a common cultural and historic heritage linked to a specific locality. The industrial fisheries in Namibia are embedded in a complex social and economic setting that is characterised by corporate industry, high technology and global markets on the one side and low wage labour and urban poverty on the other. Involvement in the Namibian fisheries sector is distributed across all categories of race, gender, class and income, including both high-end earners and those below the poverty margin. Thus, data need to be collected at household and individual level. There are also issues of interdependencies. In cases where fisheries management is dealing with resources that are harvested by both small and large-scale sectors, e.g. in the case of West Coast Rock Lobster, an understanding of the fishery system in its entirety is needed. Thus, there is a need to gather information on human dimensions of all resource user groups and their patterns of use. Although this would be ideal, it may not be possible to gather all information at the outset.

f) Implementation of a pilot field programme for participatory socio-economic monitoring

We understand a “field programme” to refer to both data collection at local level as well as the accessing of existing regional and national data and monitoring programmes held by local government structures, fisheries agency or other ministries. However, an initiative like this will only work if there is enough national ownership as well as regional collaboration to implement it. Such a programme will be far more successful if there is adequate funding to facilitate a participatory implementation process. Key stakeholders and their roles and responsibilities must be identified and included in the data collection and monitoring process. Stakeholder groups may include industry, unions, local government, fishers and fish workers, fisheries authorities, line ministries, relevant NGOs and research institutions.

Below we offer some guidelines for the development of such a programme and suggest some key social and economic elements as candidates for indicators. It is clear that data for some indicators are easy to collect whereas other information is more complicated to obtain. However, it is important to start somewhere, because this is as much about the process of engaging stakeholders as it is about collecting data. It is important to note that the generic

list of indicators we suggest below is not absolute and will require contextualisation and continuous updating.

6.2 APPROACH

- Ideally, staff should be appointed to maintain and run this programme, either at the fisheries authority level or within the BCC organisation. Their brief would include, networking between relevant organisations, identifying information sources, collating available information on a continuous basis, and maintaining the data collection schedule. Initially outside funding will be required to make this possible.
- Use existing international monitoring guidelines (e.g. the global socioeconomic monitoring initiative for coastal management) to adapt our recommendations to a country specific pilot programme. Also take into consideration existing ongoing BCC projects that have a bearing on indicators such as the economic valuation of the marine and coastal resources of the Benguela current (Sumeila, 2010).
- Involve stakeholders to further shape the data collection methodology and indicators to fit your specific context.
- Where possible aggregate and centralise already existing information and make it available in a format that is easily accessible to stakeholders.
- Pilot the monitoring programme in selected communities/localities.
- Where possible involve stakeholders in data analysis.
- Provide regular feedback about data and analysis to all stakeholders.

6.3 POTENTIAL INDICATORS FOR THE SOCIAL AND ECONOMIC DIMENSIONS

Our discussions about indicators have made it clear that even the formulation of a potential indicator raises difficult questions and issues. For example, something as seemingly straight forward as counting the number of “active fishers” turns out to be a loaded term. In the South African context, defining who is an active fisher raises questions of rights allocation and legitimacy. Equally measuring the number of jobs in the Namibian industrial fisheries requires further analysis. Simple employment statistics provide no indication of human wellbeing unless they are combined with data on quality of employment and cost of living. Therefore, the following candidate indicators require further discussion and clarification at the local level:

- number of jobs in the fishing sector (problematic, not only in the informal sector);
- number of rights holders/number of fishers;
- number of women right holders /number of woman fishers;
- number of crew number of sea going employees – (NB income disparity between skippers and crew);
- number of woman crew members;
- origin of crew;
- number of vessels and size of vessels;
- gear characteristics of vessels a) in connection with occupational health issues related to fishing gear and vessel type; b) in connection with poverty. There is a relationship between lack of access to capital and safety issues due to quality of technology;
- level of and access to education of fishers and fish-workers;
- number of women per type of job (fishing; accounting; post-harvest such as processing, selling, marketing, quality control; etc.) this is an example of an indicator that needs development of specific categories;
- job opportunities and livelihood strategies: people’s primary and secondary sources of income – again this will need to be developed into a clear indicator – can only be quantified if appropriate categories can be defined, which in turns requires qualitative research to understand the types of income;
- career opportunities (requires categories, possibly fisheries specific);
- how many people (per household) are dependent on an income from fisheries?
- access to basic health services (requires categories – could be taken from national census);
- HIV infection rate;
- TB and other infectious diseases;
- level of participation in local and national management structures (requires categories);
- level of fish consumption (requires categories – available from NFCT);
- frequency of food shortage in the household;
- quality of housing (requires categories – could be taken from national census);
- type of fixed assets (requires categories);
- access to water and electricity.

This is not a comprehensive list of human dimensions indicators, nor should this list be seen as final for the social and economic dimensions. The first step in developing EAF-specific human dimension indicators is to identify the objective of measuring a particular socio-economic aspect. EAF aims towards human wellbeing and good governance. Therefore, we need to identify data categories that indicate whether human wellbeing or governance is improving or worsening. Improved demographic information is important but measuring is not an end in itself. Developing appropriate indicators provides a pathway to clearer understanding for decision makers though linkages to management objectives. The set of indicators should be as wide as necessary and as small as possible. To achieve this, meaningful stakeholder participation at various levels is essential and should be followed by refinement through specialist discussions and ground truthing through piloting in the field.

6.4 FURTHER RESEARCH AND ANALYSIS

The collection of data alone is not sufficient to improve our understanding of human dimensions of fisheries in the BCC region. There is a lack of critical analysis of available data in all three countries. Moreover, an EAF relies heavily on the use of indicators to evaluate management actions. The identification of appropriate indicators, however, is only possible based on a good understanding of human dimensions at various scales. At the Cape Town workshop, government officials stated that fine scale local data is useful for advocacy of management measures at a higher level. Through the human dimensions workshops in Luanda, Walvis Bay and Cape Town and in the baseline reports, the following research needs were identified:

Policy research

- analysis of Policy interactions and Institutional linkages needed in Angola;
- analysis of relationship between rights/quota allocation and management outcomes in South Africa and Namibia;
- analysis of governance issues around rights allocation process (South Africa, Namibia);
- studies on harmonisation of policies between different institutions in Namibia (and possibly South Africa and Angola). The BCLME SAP-IMP project has initiated a region wide study, but there is a need to consider the national scale;
- analysis of participation in policy making and management.

Gender research

- roles of women and their work in the sector;
- number of women rights holders and IRP holders;
- intersection of class, race and gender;
- impact of management actions on women and household relations, e.g. the impact of processing plant closures (South Africa, Namibia, Angola?);
- social cohesion;
- case studies on social dynamics in fishing communities (Angola, South Africa, Namibia);
- impacts of sector specific management interventions (Angola, South Africa, Namibia);
- how do values, beliefs and perceptions influence peoples relation to marine resources and shape their responses to management interventions? (South Africa, Namibia, Angola).

Livelihoods

- relationship between fisheries sector and livelihood strategies in coastal townships (Namibia);
- examine the rate and nature of rural migration to the coast, and the implications thereof, both qualitative and quantitative (Namibia);
- analysis of the relation between fisher's livelihoods, access to resources and their health;
- investigation of the relative benefits and cost (disadvantages/potential harm) of tourism and aquaculture as alternative livelihoods;
- investigate fish consumption and the role of the Namibian Fish Consumption Trust (Namibia).

Economics

- Analysis of the flow of benefits from fishing;
- analysis of distribution of benefits and risks including fishers and fish workers;
- flow of benefits within the country and out of the country (Namibia);
- quality of employment;
- income vs. cost of living;
- overview and analysis of support industries and services and current and potential SMEs needed (Namibia);
- studies on access to credit for small scale fisheries in South Africa;
- market study for small scale fisheries sector (South Africa, Angola?);

- vulnerability of fishers, fish workers and fishing communities; how can one measure vulnerability? This is a key research theme; fishers and fishing communities seem particularly vulnerable, and prone to high risk;
- investigate opportunities for value addition through secondary processing for the fisheries sector in Namibia;
- assess the fishing capacity/over capacity of vessels in the Namibian fishing industry. (Although this is an economic issue, it is cross-cutting between human and ecological dimensions of EAF).

Culture and Politics

- documentation of fisher knowledge and its integration into management;
- fishing culture and its relation to other human dimensions;
- critical analysis of power relations and historical shaping of underlying structures;
- critical analysis of conflicts between the artisanal and the industrial fishing sectors (Angola);
- investigate interaction between fishing and the oil and gas sector (Angola).

Thus there is an urgent need to enhance research efforts on selected human dimensions. Another key issue is the question of how to integrate the human dimensions information with the ecological fisheries data. In order to enhance management decisions it is of critical importance to improve and foster communication and collaborations between social science and natural science researchers. Thus, there is a need to enhance research collaboration between local, regional and international research institutions in order to foster and enable the critical analysis of the social, economic, cultural and political dimensions. The BCC has already started a partnership with Canadian researchers to enhance understanding of social-ecological research in the BCC region. This collaboration should be further expanded and formalized.

6.5 DEVELOP A BCC RESEARCH AGENDA ON HUMAN DIMENSIONS

While the focus of this overview has been the current availability and quality of information on human dimensions in the small-scale fisheries sectors and the industrial sector in the case of Namibia, it is also recognised that future studies will need to grapple with how these human dimensions are incorporated into a more integrated and participatory approach to fisheries management.

The large gaps in human dimensions information in all three countries show undeniably that an effective programme requires more than just a few isolated research projects. If the BCC is serious in their commitment to EAF and the inclusion of human dimensions information into fisheries management a comprehensive research agenda on human dimensions should be developed.

The BCC should assist the member countries in soliciting funding for such a research programme, to be carried out in conjunction with the existing EAF component of the scientific programme of the BCC. The inclusion of human dimensions in fisheries is an imperative that comes from a range of international fisheries and human rights instruments and hence this will greatly assist fisheries departments at country and regional level to implement and report on these obligations.

6.6 ESTABLISH A REGIONAL SOCIAL-ECOLOGICAL THINK TANK

It has become evident that there is a need for further focus on human dimension work in the BCLME. It would be useful to formalise a permanent group comprised of key experts and mandated officials. This group would assist and guide the BCC with the following activities. This is not a comprehensive list and Terms of Reference for this group will need to be formulated. This think tank may develop into a permanent working group in the longer term.

- Develop indicators;
- Co-ordinate research, Inventory of research projects, develop a Master thesis series and bursary programme under BCC/BCLME, which will contribute towards an alliance of universities and research institutions in the region;
- Provide guidance on research ethics for social-ecological research;
- Facilitate debate around what it means to incorporate human dimensions into fisheries management;
- Provide guidance for research and data collection.

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