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Small-Scale Fisheries in South Africa: Stakeholders' Understandings and Perceptions of Co-management



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In partial fulfilment of the requirements for

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Abstract

Co-management, which boasts sharing of power and responsibilities amongst all stakeholders involved, has been adopted as an approach to small-scale fisheries management in South Africa. However, the relative success of co-management differs between provinces, provinces which also have different institutional arrangements supporting co-management. In KwaZulu-Natal, arrangements continue to function whereas in the Eastern and Western Cape many have collapsed. Increasing research indicates that fostering shared perceptions (of objectives, approach, desired outcomes and communication infrastructure) towards resource management can improve management practices by obtaining greater community support, increasing understandings of site-specific conditions and improving conflict resolution amongst stakeholders. Thus it is the overall aim of this research project to identify stakeholders' perceptions towards co-management theory and practice at four case study sites (Mfazazana, Nonoti, Swartkops, Ebenhaeser) to decipher any differences in perceptions and to discuss factors that are influencing these perceptions towards co-management. This has been achieved through a review of the relevant literature, a series of interviews with 40 different stakeholders (primarily fishers and government) and visits to the four case study sites.

Findings from this research project illustrate that although there is a common understanding of the term co-management, stakeholders can have very different perceptions towards other aspects of co-management (such as objectives and benefits). However, findings also show that stakeholders in KwaZulu-Natal hold more common perceptions towards co-management than the stakeholders of the Eastern and Western Cape. Factors that could be influencing perceptions are dictated by the type of institutional approaches in place in the different areas. In particular, the top-down approach towards co-management in the Eastern and Western Cape has hindered perceptions being shared amongst stakeholders due to the centralised decision-making, the national authority's inability to act as a champion, and the lack of support to promote empowerment within the communities. Conversely, the institutional arrangement in

KwaZulu-Natal has fostered shared perceptions through its devolved decision-making, long-term and government-supported champions, and the continuous empowerment of fishers in the communities. However, findings also highlight that despite the collapsed implementation of co-management at two of the identified sites, almost all stakeholders support the concept of co-management and view it as the most appropriate approach. Yet, if this support is to continue, it is important that certain institutional changes are made so that stakeholders also support the practice of co-management and not just the concept.

University of Cape Town

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List of Acronyms

ARA	Amsterdamhoek Ratepayers Association
CBO	Community-based organisation
CCO	Community Conservation Officer
CNC	Cape Nature Conservation
DAFF	Department of Agriculture, Forestry and Fisheries
DCO	District Conservation Officer
DEAT	Department of Environmental Affairs and Tourism
EC/WC	Eastern Cape and Western Cape
EEU	Environmental Evaluation Unit
EKZNW	Ezemvelo KwaZulu-Natal Wildlife
FAO	Food and Agriculture Organisation
KZN	KwaZulu-Natal
LCC	Local Co-management Committee
LSCC	Local Subsistence Co-management Committee
MCM	Marine and Coastal Management
MLRA	Marine Living Resources Act (1998)
MLRF	Marine Living Resources Fund
NEMA	National Environmental Management Act
NMMU	Nelson Mandela Metropolitan University
NORSA	Norwegian-South African partnership programme
NGO	Nongovernmental organisation
OEMP	Olifant's Estuary Management Plan
SA	South Africa
SAPS	South African Police Services
SFIU	Subsistence Fisheries Implementation Unit
SFMU	Subsistence Fishers Management Unit
SFTG	Subsistence Fisheries Task Group
TAC	Total Allowable Catch
UCT	University of Cape Town

1. Introduction

1.1 Background

Over the last fifty years, many fisheries stocks worldwide have been depleted by overexploitation. This overexploitation has been caused by poor or inappropriate forms of management, but is also due to political deals. However, this mismanagement has not only harmed the fish stocks, but has also led to various social inequities. As a result, conceptual thinking with respect to fisheries management has undergone significant changes over the past 30 years in order to improve fisheries management practice. Historically however, government policies have favoured commercial fisheries due to economic benefits and, as a result, small-scale fisheries have been continuously marginalised (Berkes 2003). There has been research that suggests this marginalisation has not only harmed the respective fishing communities, but has failed to achieve sustainable fishing practices (McGoodwin 1992). Consequently, in the last three decades there has been a paradigm shift in small-scale fisheries management and this has led to experimentation with alternative management approaches. One type of management arrangement that has received increasing attention in the literature and is proving promising in various contexts, is co-management (Jentoft 1989; Pinkerton 1989; Berkes 1994; Pomeroy & Berkes 1997; Berkes *et al.* 2001). Pomeroy and Williams (1994) define co-management as the sharing of power and responsibility between government, local fishers and other stakeholders to manage a fishery. The co-management approach regards the small-scale fisheries sector as a complex socio-ecological system, which requires the management process to consider all social, cultural, economic, political and ecological components (Berkes 2003). Co-management entails power-sharing and knowledge transfer between resource users and government in order to allow for a more holistic approach to small-scale fisheries management. But most importantly, co-management is a partnership between different stakeholders that have an interest in or impact on a certain resource. It is argued that once a partnership has formed, it is essential for the stakeholders to identify a common set of management objectives and the means to achieve these objectives (Selin & Chavez 1995). However, although co-management has been advocated as a viable approach to small-scale fisheries, there remains many

challenges that co-management arrangements face in practice (Pomeroy *et al.* 2001; Hauck & Sowman 2003; Nielsen *et al.* 2004).

In South Africa specifically, co-management has been advocated as an appropriate approach to resource management due to its compatibility with the country's Constitution, and environmental and resource management policies and legislation. Since 1994, the new government has aimed to create a participatory democracy in the country, which includes redressing past imbalances in the fishing sector. Enhancing access to marine resources, especially to those resource users disadvantaged by the previous regime, has been a key objective of the new fisheries policy (Hauck & Sowman 2003). During Apartheid, legislation did not recognise subsistence and small-scale fishers and therefore they had no legal rights to access marine living resources (Hauck & Sowman 2003). Due to past social injustices, the primary focus of the fisheries reform process post 1994 has been the transformation of the fishing sector and restoration of rights to dispossessed fishing communities (van Sittert *et al.* 2005). As a result, South Africa's current policies and legislation aim to be supportive of user participation and promote equitable access to resources. Small-scale fisheries management arrangements are also guided by the principles of the Marine Living Resources Act (MLRA) of 1998. The MLRA emphasises that management should ensure sustainability of resources, maintain economic stability in the industry as well as promote social equity; principles that are also reflected in the South African Constitution (van Sittert *et al.* 2005). This shift in policy and approach to the management of South Africa's marine resources dovetails with the underlying principles of co-management. Thus, co-management has been identified as an alternative management system for small-scale fisheries in South Africa (Harris *et al.* 2002). As a result, within the last two decades, numerous co-management projects have been initiated across the coast of the country.

1.2 Statement of Problem

Although co-management initiatives for small-scale fisheries have been implemented in South Africa for over a decade, the successful operation of such projects remains low,

except in the province of KwaZulu-Natal. Research within the country has identified a number of reasons for this poor success rate. First, there is currently no national framework for co-management nor a developed strategy for its implementation (Sowman *et al.* 2003). As a result, co-management continues to be interpreted differently amongst government stakeholders and fishing communities (Sowman *et al.* 2003). Secondly, government has undergone major restructuring processes within the last few decades. During Apartheid, marine resources were both a provincial and a national responsibility. After the creation of the new Constitution in 1996, marine resource management became the sole responsibility of the national government (Sowman *et al.* 2003). However, in the province of KwaZulu-Natal, aspects of small-scale fisheries management became a provincial responsibility. This juggling of government roles and responsibilities has created confusion across levels of government and between government departments. Finally, many of the objectives and desired outcomes of the co-management arrangements have not been collectively agreed upon by all stakeholders before projects began (Sowman *et al.* 2003). Since there is no overarching strategy for implementing co-management in South Africa, the various co-management arrangements have been developed and implemented in different ways with different levels of stakeholder involvement and in some cases driven by external agents. This has resulted in varied expectations of co-management, which has hindered effectiveness on the ground (Sowman *et al.* 2003).

The above difficulties are some of the primary challenges facing the establishment and implementation of co-management arrangements in South Africa. However, the underlying issue relevant to each of these challenges is the confusion, mixed interpretations and ultimately differing perceptions among the stakeholder groups with respect to the notion of co-management (Nielsen *et al.* 2004). Nielsen *et al.* (2004) explain that although the concept of co-management has increasingly gained acceptance among governments, researchers and agencies as an appropriate management approach, it has also become increasingly evident that the concept of co-management is not clearly defined nor understood. Co-management has been described as the ‘sharing of power and responsibility between the government and local resource users... an arrangement

whereby partnerships can come about' (Berkes 2009, p. 1692). Yet although many researchers have commonly described co-management in this fashion, because it is not universally defined, co-management could 'mean very different things to different people' (Nielsen *et al.* 2004, p. 152).

More recent research has focused on the different perceptions among stakeholder groups and how perceptions can affect the operational success of resource management (McClanahan *et al.* 2005; Alexander 2008). This research suggests that recognizing and acknowledging perceptions of the different stakeholders can improve management practices by obtaining greater community support, increasing understandings of site-specific conditions and improving conflict resolution amongst stakeholders (Broad & Sanchirico 2008; Su & Cervantes 2008; Hoehn 2009). Berkes (2009) also believes that knowledge sharing among stakeholders should be a central component of co-management, since it builds relationships and trust among the stakeholders. Although emphasis has been placed on knowledge sharing (such as scientific and traditional knowledge), very little attention has been given to the importance of fostering shared *perceptions* amongst stakeholders. However, acknowledging differences in perceptions and creating means to foster shared perceptions may strengthen the relationships and trust that co-management is dependent on.

Co-management is an approach that promotes the involvement of various stakeholders, where responsibilities and knowledge are shared, and communication is central. Thus, in the process of jointly managing a resource, this approach should also promote shared perceptions and understandings among stakeholders. Particularly, this can include stakeholders' perceptions and understandings of co-management objectives, approaches, benefits, decision-making, communication and overall functionality. Identifying these perceptions among and between stakeholder groups within a co-management arrangement can shed light on the commitment of the stakeholders and the strength of the partnership amongst them. In South Africa specifically, the operational success of co-management arrangements differs between the provinces. Specifically, co-management

arrangements in KwaZulu-Natal continue to function whereas many in the Eastern and Western Cape provinces have collapsed in recent years. This research will explore the perceptions of stakeholders involved in co-management in South Africa, and will compare perceptions towards the theory and practice of co-management across the different provinces, as well as discuss possible factors that influence different perceptions of co-management.

1.3 Purpose of Study

The aim of this research is to identify and analyze the different perceptions of relevant stakeholders towards co-management theory and practice. Comparisons will be made between stakeholder groups in different provinces (focusing primarily on the government officials and fisher groups), in order to identify differences and similarities and to explore possible reasons for these discrepancies. Case studies were chosen to represent different regions in South Africa with regard to the government agencies involved in co-management arrangements. Two case studies were chosen in the province of KwaZulu-Natal (KZN), where the provincial government agency EKZN Wildlife (EKZNW) and the Subsistence Fisheries Implementation Unit (SFIU) are involved. Similarly, two case studies were selected in the Eastern Cape and Western Cape (EC/WC) provinces to represent co-management arrangements where the national government department, the Directorate of Marine and Coastal Management (MCM) within the Department of Environmental Affairs and Tourism (DEAT)¹, is the responsible agency. Thus, comparisons between the perceptions of officials in the two spheres of government were made, as well as an analysis of how different institutional arrangements linked to co-management can influence perceptions among stakeholders. Determining the extent to which perceptions of the stakeholder groups differ has shed light on the complexity of implementing co-management. It is argued that understanding these differences could help to improve the success of co-management practice in South Africa.

¹ Fisheries management recently moved to the Department of Agriculture, Forestry and Fisheries and is now called the Fisheries Branch. However, for the purpose of this thesis I will refer to MCM and DEAT as this change only took place after the field work had been conducted.

1.4 Objectives of Study

The overall aim of this research project is to identify stakeholders' perceptions towards co-management theory and practice and determine any disparities between the stakeholder groups. Four primary objectives were also identified to aid in the achievement of this aim.

Primary Objectives:

1. Review literature on stakeholders' perceptions towards approaches to natural resource management, review the concept of co-management and its procedures, followed by conditions for successful co-management, and finally the policy and legislative framework relevant to co-management in South Africa;
2. To gain an understanding of the various perceptions of stakeholders towards co-management theory and practice, and ascertain the extent to which these perceptions differed within and across stakeholder groups and study sites;
3. Compare and contrast the perceptions of different stakeholders towards co-management theory and practice;
4. Identify and discuss the factors that are influencing different perceptions of co-management.

1.5 Format of Thesis

This research project consists of seven chapters, which are structured as follows:

Chapter 1 has provided an introduction to and rationale for the research, as well as the overall aim and objectives of the study.

Chapter 2 describes the methodology used in this research, including details of methods used during the field work component and the analysis of the data. This chapter also describes ethical considerations and limitations to the study.

Chapter 3 reviews the literature relevant to stakeholders' perceptions of approaches to natural resource management, current thinking in the field of small-scale fisheries, the concept of co-management, as well as challenges to co-management in practice at an international level. Finally, the history of small-scale fishery management in South Africa is described, as well as challenges facing implementation of co-management arrangements within the country.

Chapter 4 provides details of the four case studies (Mfazazana, Nonoti, Ebenhaeser and Swartkops) in terms of socio-geographic details and the histories of the co-management arrangements in place in these four communities.

Chapter 5 describes the findings of this research project, which are presented in three main categories: perceptions towards the concept of co-management, practical experiences of co-management, and support for co-management as an alternative management approach.

Chapter 6 discusses the findings in relation to the relevant literature presented in Chapter 3. This chapter focuses on three main themes: common understandings of the term co-management, disjuncture of perceptions towards co-management, and co-management as a preferred management approach.

Chapter 7 will present the conclusions on this study and make recommendations for improvements to the practice of co-management.

2. Methodology

This research study, which sought to identify and understand stakeholder perceptions on co-management, was conducted using qualitative methods. Qualitative methods are used to understand human behaviour and the reasons behind such behaviour, attempting to answer the *why* and *how* of a human system (Strauss & Corbin 1998; Mack *et al.* 2005). In addition, qualitative methods seek to understand a certain problem through the perspectives of the local population that is involved – and as result, qualitative methods can obtain a ‘rich and complex understanding of a social context’ (Mack *et al.* 2005, p. 2). Qualitative methods also have the advantage of being flexible to each context, and can evoke responses that are meaningful and culturally relevant to the participants, as well as responses that are rich and illustrative (Mack *et al.* 2005). Since this research project focuses on the perceptions of various stakeholder groups who differ from each other culturally and socio-economically, qualitative methods were adopted in order to gain a better understanding of these perceptions and how they differ between groups.

Information was acquired first through a review of the relevant literature relating to fisheries co-management concepts and practice at an international level, as well as a review of co-management in South Africa. Common trends and lessons learned were explored in relation to the understanding and practice of co-management at the international and national levels. The field work component of this study focused on obtaining data through key informant interviews at specifically defined case study sites. The case studies chosen for this research project represent the various stakeholder groups involved in co-management arrangements in South Africa. Interviews were undertaken to obtain information from government officials, fishers and other key stakeholders. The data was then analysed to determine consistencies and discrepancies among the perceptions of different groups.

2.1 Review of relevant literature, legislation and policy

A review of the relevant literature was undertaken, which largely focused on theoretical concepts of co-management, the practical challenges co-management arrangements face at the international level, and a review of co-management arrangements in the South African context. A review of the relevant policies and legislation, as well as the history of fisheries management in South Africa was also undertaken in order to provide a picture of the evolution of co-management in the country. This literature review also provided an impression of the trends of co-management challenges worldwide, how many of these challenges are connected to the notion of differing expectations and understandings amongst stakeholders, and most importantly that there is a lack of research that focuses on these differing perceptions. Therefore, this literature review provided a foundation and purpose for this study.

2.2 Case Studies

Four case study sites were identified to compare stakeholders' understandings of co-management *in theory* and to understand how co-management is being implemented in practice in their respective area. Specifically, case studies were chosen in an area where the provincial government agency is involved, and in areas where the national government department is involved. It was important to choose case studies in these different areas so that comparisons could be made between the two management systems.

2.2.1 Site Selection

Four case studies were chosen based on the following set of criteria:

- 1) Geographic Spread – in order to obtain an understanding of different stakeholders' perceptions on co-management theory and practice, it was considered necessary to select case studies in different provinces within South Africa for comparison. Two of the case studies would be located in the province of KZN, where the implementation of co-management is the responsibility of the provincial conservation department, namely, EKZNW. Likewise, it was also considered important to choose one case study from the EC/WC provinces, which

are supervised by the national government agency MCM. Thus, case study sites included two co-management arrangements that are provincially-managed and two that are nationally-managed.

- 2) Capacity Development – since the project focused on stakeholders’ perceptions and attitudes towards co-management, it was considered important that all stakeholders had an understanding of the term co-management. It was therefore considered important that stakeholders who engaged in the research process had participated in co-management capacity building workshops in the past, whether these were facilitated by the government or another organization. This was to ensure that the interviewees within the selected case studies had previously been introduced to the term ‘co-management’.
- 3) Previous Research – case studies were chosen where previous research had taken place, facilitating background information on the study site and securing contacts within the community.
- 4) Co-management History of 3-5 Years – it was important to find case studies that had a co-management arrangement running for at least three to five years. This ensured that the co-management arrangement was not in its initial steps, but had been established and running for a few years. Thus, the interview questions could pertain to all aspects of a co-management arrangement (e.g. initiation process, roles and responsibilities, conflicts and barriers, and functionality of the arrangement).

After communicating with MCM and EKZNW, as well as other researchers at the University of Cape Town, it was decided to use Mfazazana and Nonoti as the two case studies from KZN (which are under provincial responsibility), as well as Swartkops in the Eastern Cape and Ebenhaeser in the Western Cape (which are under national responsibility). All four of these case studies met the criteria listed above (please refer to the map in Chapter 4 – Case Studies).

2.3 Structured Interviews

This study focused on obtaining the perceptions and understandings of stakeholder groups, drawing largely on interviews as the key method. Byrne (2004) argues that interviews are the best method to obtain this type of information as ‘open-ended and flexible questions are likely to get a more considered response... [and] provide better access to interviewee’s views, interpretations of events, understandings, experiences and opinions’ (p. 182). Further, he argues that the flexibility of interviewing can allow for the interviewees to speak their own voices, which is especially important if these voices have been misrepresented in the past (Byrne 2004). Since half of the interviewees in this study were fishers, who have historically been misrepresented, qualitative interviewing was chosen as the best means to acquire the stakeholders’ perceptions of co-management.

Data collection began in March 2010, when key stakeholders were identified and contacted. Stakeholders working for MCM and EKZNW were contacted by email and by phone in order to ascertain and select the most fitting case studies for this research project. Through these initial connections, other key stakeholders involved in the chosen case studies were also identified. Dates were then selected to visit the case studies, and meet with the relevant stakeholders in various areas of KZN, and the EC/WC. Interviews were conducted from May to July 2010 among the stakeholders involved in small-scale fisheries co-management in each of the four communities, as well as the government officials who were based in neighbouring cities (Durban, Port Elizabeth and Cape Town).

In total, 40 interviews were conducted with the relevant stakeholders in the four chosen case studies, which can be viewed in detail in Table 1. This research focused on two primary stakeholder groups – fishers and government officials. However, in the EC/WC case studies, other stakeholders were also interviewed since the co-management arrangements at these case studies were largely initiated by outside organisations and have also had a history of ongoing stakeholder involvement outside of the government and fishers groups. In KZN, only fishers and government officials were interviewed as the chosen case studies in this area have had little involvement with other stakeholders.

All interviews were conducted in person (one-on-one) except two – one which had to be conducted over the phone since the interviewee had recently relocated to another city, and the other over email. On average, the interviews lasted between 45 minutes to two hours.

Table 1 – Stakeholders Interviewed at the Four Case Study Sites

Stakeholder Group	Province of KwaZulu-Natal		Eastern and Western Cape Provinces	
	Mfazazana	Nonoti	Ebenhaeser	Swartkops
Fishers	7	5	6	3
Government Officials	8 KZN officials, specifically: <ul style="list-style-type: none"> • 4 SFIU members (3 extension officers, head facilitator) • 4 EKZNW members (2 DCOs, 1 CCO, 1 facilitator) 		5 MCM officials, specifically: <ul style="list-style-type: none"> • 2 local MCM officials based in PE • 2 MCM officials at CT headquarters • 1 former MCM official 	
Other Stakeholders	0	0	2 (1 Masifundise member, 1 researcher/facilitator)	4 (1 facilitator, 2 ZT members, 1 municipal official)

In-depth interviews were held with the two key stakeholder groups involved in the co-management arrangements at the selected case study sites. These two key groups include the fishers (as well as community committee members) and the government officials (from both MCM and KZN – which include compliance staff, extension officers, environmental awareness officers, and head officials). A third group was also identified in the EC/WC which will be referred to as ‘other stakeholders’ and includes members of the municipality, NGOs, facilitators and researchers. These interviews aimed to gain an understanding of each individual’s understanding and perceptions of co-management theory and practice. A key objective was to assess how these perceptions differed between different levels of government, between provinces, and between the government representatives and fishers engaged in co-management arrangements. This comparison will then inform whether discrepancies in perceptions may be affecting co-management effectiveness on the ground.

The questions for the interviews were reviewed several times before they were finalised. Once finalised, the set of questions was arranged into two sections: understanding the concept of co-management (ie. theory) and understanding co-management in practice. A sample of the interview questions can be found in Appendix A. Each interviewee was asked the following key themes:

- 1) Their understanding of the term co-management;
- 2) How co-management should theoretically function;
- 3) How co-management is actually functioning at the relevant case study;
- 4) Whether co-management is the best approach, and what amendments they believe can or should be made.

Questions in both the conceptual and practical sections covered topics such as the definition of co-management, objectives and desired outcomes, benefits, initial activities and steps, stakeholder involvement, decision-making, communication, indigenous/local knowledge and practices, other socio-economic development projects, conflict resolution, structures/policies/programs in place to facilitate co-management, and whether or not co-management is a feasible approach. It was important to include similar questions in both sections (concept and practice) so that answers could be compared between how people perceived co-management in theory, and how co-management was in fact being perceived in practice. For example, an interviewee may respond during the conceptual questions that it is important to include indigenous knowledge in the co-management arrangement, but during the same interview, the interviewee may respond that in practice, indigenous knowledge plays no role in the co-management arrangement. This would indicate a discrepancy between how people understand co-management and how it is being implemented on the ground.

Interviewees were coded to indicate their stakeholder group, the case study site and the interview number (Table 2). For example, a fisher from Nanoti was coded as NF4, whereas a government official from KZN was coded as KZN2 and another stakeholder from Swartkops was coded as SS3.

Table 2 – Coding of the interviewees based on their stakeholder group and case study

Stakeholder Group	Province of KwaZulu-Natal		Eastern and Western Cape Provinces	
	Mfazazana	Nonoti	Ebenhaeser	Swartkops
Fishers	MF1 - MF7	NF1 - NF5	EF1 - EF6	SF1 - SF3
Government Officials	KZN1 - KZN8		MCM1 - MCM5	
Other Stakeholders	-	-	ES1, ES2	SS1 - SS4

Notes were taken during the interviews, but each interview was also recorded in case the note-taking was not adequate. Each question was asked and then responded to, however if there was some confusion, questions were often modified in order to give clarity. Similarly, the researcher would ask for clarification if responses were unclear. In some instances, where interviews needed to be translated, a different process was adopted, which is explained in further detail below. Finally, each interview was typed up according to the notes and recordings. Answers obtained from the questions were then analysed and compared to determine emerging themes in the responses².

2.3.1 Sampling

Snowball (or network) sampling was used as the primary method to identify the informants to be interviewed in this study. This method was used since there was a limited list of the population, especially in reference to the fishers. This approach is reliant on the referrals of people who share similar characteristics (Bloch 2004). The premise of this technique is to start from a few key people who then refer to others involved in the same area/field (Bloch 2004). Thus, for this research project, referrals were given from practitioners of co-management in South Africa, and thus led to contacts with other people engaged in the co-management arrangements within the case study sites. Bloch (2004) explains that this technique can sometimes lead to sampling of just one network, however this was avoided in this study by finding multiple starting points and thus multiple networks were sampled.

² Respondents' key quotes can be found in Appendix B.

Government officials were referred based on their knowledge and involvement with the co-management arrangements at the four case studies. MCM officials responded to practical questions based on their involvement with co-management in Ebenhaeser and Swartkops. Government officials from EKZNW likewise were asked practical questions based on their experiences with Nonoti and Mfazazana.

2.3.2 Language

In some cases interviews required the assistance of a translator. For these interviews, the researcher spoke with the translator prior to the interviews, in order to explain the importance of translating word for word as to limit the amount of bias. Prior to each interview an introduction was given, which was then translated to the interviewee. Any questions that the interviewee had were also translated to the researcher prior to the interview. During the interview, each question was first posed in English and then translated into the respective language. Responses, similarly, were first given in the interviewee's language and then translated into English for the researcher. This process continued for each question. If some questions were not understood, the questions were then explained or asked differently in English and then translated into the interviewee's language. During this time, the researcher also took notes and used a voice recorder. These translators allowed for the interviewees to express their opinions and understandings in a language most comfortable and convenient for them.

Although the same questions were used for each interview, questions were often modified and reframed in order to make the question more relevant for the interviewee. Similarly, many words and phrases such as 'socio-economic development' were rephrased in a manner suitable to the interviewee. It was also important to assert to the interviewee that there was no 'right or wrong' answers – that the interview was primarily to gather their understandings and opinions, and if the interviewee did not have an answer, it was not a problem.

The translators used in this study were referred by government officials and researchers at University of Cape Town (UCT), based on their knowledge of and involvement with the co-management arrangements at the four case study sites. This was essential so that: 1) the translators would understand the basis of the interview questions and thus could translate more easily, and 2) their involvement and built relationship with the community would allow for a level of trust with the interviewees. Translators were only used for the fisher stakeholder group (translations were conducted in Zulu, Xhosa and Afrikaans), whereas the government officials and other stakeholders felt comfortable answering the interview questions in English.

In KwaZulu-Natal, two different translators were used, one for each case study site in the province, to translate the interview questions to Zulu. Each translator was from the respective community and also worked as an extension officer in KZN for facilitating co-management therefore had relations with the fishers and committee members of the community. In Port Elizabeth, a translator, who had previously acted as a co-management facilitator, accompanied the researcher to each interview and translated the interview questions into Xhosa. This translator also had a history of involvement with co-management at the Swartkops case study. Finally, in Ebenhaeser, a translator (who is involved with a local NGO working with fishers on the west coast) accompanied the researcher to translate the questions to Afrikaans for fisher interviewees.

2.4 Data Analysis

Once the information was acquired through the interviewing process, the textual data was then organised and coded into themes in order to detect patterns (Seale 2004). Detailed notes for each interview were typed up using the recording and notes produced during the interviews. Notes were then binned and grouped in the following manner: Mfazazana Fishers, Nonoti Fishers, KZN Government Officials (EKZMW and SFIU), Ebenhaeser Fishers, Other Ebenhaeser Stakeholders, Swartkops Fishers, Other Swartkops Stakeholders, and MCM government officials. Grouping was done in such a manner as to

allow for comparison of stakeholders' perceptions *within* a case study, and to compare stakeholders' perceptions *across* case studies.

Since the interview questions were all open-ended, information obtained from the interviews were 'post-coded', meaning that codes were given to the responses after the textual data was acquired. The open-ended questions and post-coding process of this study also allowed for respondents to be free from the fixed objectives of the study (Seale 2004). Thus, the researcher had a greater variety in responses and a greater understanding as to the meaning and complexity that contributes to a response (Seale 2004). This was essential for this study of perceptions, since perceptions can be diverse, and it was a goal of the study to identify this diversity.

These various responses were then analysed to find trends for coding. Codes were given to responses primarily through trends of certain words that emerged. For example, when respondents were asked about the benefits of co-management, a response such as '*fishers benefit since they receive free permits and have access to the resources*' would then be post-coded as "securing fishers' rights". However, sometimes one response would be post-coded as two different categories. For example, when asked to describe co-management, a response such as '*the compliance staff working together with the community to create sustainable management*' would then be post-coded as "working together" and "sustainable management". Once post-codings of the responses were completed, the textual data was then entered into a spreadsheet to analyse, compare and find further patterns in the stakeholders' responses.

During the analysis, themes relating to the strengths and weaknesses of co-management arrangements within the case studies emerged in each interview. Many of these themes reflected the co-management challenges that were discussed in the review of the literature. The interviews were continuously revisited to find further trends in responses.

Themes were then developed based on the differences in perceptions among the different stakeholder groups and case study sites, and what may have informed these differences.

2.5 Research Challenges and Limitations

2.5.1 The use of translators and added bias

For this study it was important to obtain the interviewees' understandings and perceptions, which are often clarified in the words they use. These words can be lost during translation, especially if translators have their own opinion on the subject. In this study, translators were also used based on their knowledge and relation to the case study sites. Due to time constraints, it was essential to have someone to translate and also have someone that knew the community and its people well (in order to set up meetings and interviews, and to establish trust), so these two essential roles were usually undertaken by the same person. The translators used in Ebenhaeser and Swartkops had previously acted as facilitators. And although they were familiar with the government officials of the area, they were not affiliated with them, and therefore less biased towards the government. In KZN, the translators also acted as facilitators, but were employed by the SFIU. Since the translators are employed by the government agency, it is possible that bias was attached to the translations and/or the fishers did not feel comfortable responding truthfully to the questions. However, both of these translators were also from the case study communities, were familiar with the fishers prior to becoming government employees, and had a positive rapport with the interviewees. Furthermore, it was emphasised with each translator that they should translate the interviewees' responses precisely, so as to decrease any bias.

2.5.2 Time Constraints and Sample Size

Inclusion of more case studies and more interviews with stakeholders at the relevant case studies would have been preferable. But due to time constraints, this study focused on four case studies and the data collected from 40 interviews. However, given the criteria used for case study selection and the range of stakeholders interviewed, findings will be able to provide an informed understanding of co-management perceptions.

2.5.3 Interviews

No pilot test was conducted (due to time constraints). However, the interview questions were reviewed by practitioners involved in co-management arrangements in order to create the most clear and comprehensive questions possible.

2.6 Ethical Considerations

This research was guided by the 'Guide to Research Ethics' published by the Faculty of Humanities at the University of Cape Town. This study focuses primarily on the perceptions of stakeholders (both government officials and fishers) involved in small-scale fisheries co-management initiatives. It was therefore vital to consider ethical issues such as obtaining consent and ensuring confidentiality during the field work activities linked to this project.

Permission of each government official, fisher and other stakeholder was obtained prior to interviews. For the fisher interviews, translators contacted the committee members prior to the visit and asked them to assemble fishers for the day of the visits. Fishers and committee members who partook in this study were originally called for an introductory meeting when the researcher visited the site. The purpose of this study was then described in English by the researcher and translated into the respective language. The motivation for these meetings was to explain the purpose of the study to the fishers and committee members and to secure their consent. It was also important to clarify that although the final project will be passed onto relevant government agencies, the individual researcher made no promises to 'fix' the current co-management problems that the community faces. The fishers and committee members were then interviewed. Likewise, a similar introduction was held prior to each interview with government officials and other key stakeholders. Prior to each interview, it was explained that although everything the interviewee said during the interview would be anonymous, with their consent, their name would be put on a list of those interviewed in Appendix B of this research paper. Most interviewees consented to this, and those who did not will have their names exempted from the interviewee list. Each individual did have the option to

say something ‘off-the-record’, where the recording would be suspended for a particular period of time. Also, many of the government officials from MCM, EKZNW and SFIU asked to have a copy of the completed research paper, which was agreed upon.

2.7 Conclusion

The aim of this project is to identify the perceptions of various stakeholder groups and to determine trends and differences in these perceptions of co-management. Since this project focuses on the perceptions of people of different areas and backgrounds – it was necessary to adopt methods that are flexible, culturally sensitive and most importantly open and free of fixed objectives. Thus qualitative methods were adopted to understand the richness and complexity of people’s perceptions.

A wide variety of stakeholders (within communities and within government) were interviewed across four case study sites in three provinces of South Africa. These case studies represented both provincially-managed and nationally-managed co-management arrangements. Forty one-on-one interviews of open-ended questions were used during the field work component of this project. Responses were then grouped and post-coded to determine themes and trends within and across stakeholder groups and case study sites. Although some limitations of the study have been identified, the research was able to engage with a wide range of stakeholders, who all expressed a willingness to share their views and experiences with the researcher.

3. Literature Review

As expressed in Chapter 1, the aim of this study is to identify and understand the different perceptions of the various stakeholders involved in co-management, as well as the factors or conditions that can influence perceptions. Thus, this chapter first begins with a review of research that focuses on the importance of identifying and understanding stakeholders' perceptions of natural resource management. A review of the literature relevant to small-scale fisheries governance is then undertaken which includes a discussion of alternative fisheries management approaches – focusing on the shift from conventional top-down approaches towards multi-stakeholder approaches (namely co-management). Thereafter, the literature pertaining to the concept of co-management, as well as practical challenges related to shared perceptions and understandings of co-management at an international level will be examined. Lastly, the relevant policy and legislative frameworks in South Africa will be outlined and the practical challenges experienced with development and implementation of co-management arrangements in South Africa will also be discussed.

3.1 Introduction – Resource Management

Natural resource management has gone through a series of groundbreaking theories within the last fifty years – all theories developed in order to create a management approach that is effective in practice. And yet, in the last fifty years, the world has seen some of the worst degradation of natural resources in recent history – degradation that has ‘continued more or less unabated’ today (Hara 2003, p. 14). Research has identified that centralised management approaches are one of the contributing factors to ineffective natural resource management (Pomeroy 1994, Jentoft *et al.* 1998; Noble 2000; Hara 2003). As a result, there has been a push for alternative approaches to natural resource management – alternatives that move away from the conventional top-down approach and to a more integrated, multi-stakeholder approach (Jentoft *et al.* 1998). However, a management approach that engages multiple stakeholders is often more complex in nature. In practice, this management approach is complex since roles, responsibilities, and decisions must be shared among and across stakeholder groups. And in order to share these management responsibilities, the stakeholders must first share their views, values

and understandings – since the different stakeholder groups may differ from each other culturally, socially, economically, and in respect to their use of the resource.

However, this complexity can lead to positive outcomes – since this new management approach allows for the knowledge of the various stakeholders to be shared and thus can produce more holistic and enlightened solutions (Jentoft *et al.* 1998). Furthermore, research has suggested that incorporating diverse perspectives into natural resource policy decisions can result in not only better quality decisions and solutions, but also more empowered and engaged stakeholders (Jentoft *et al.* 1998; Beierle & Konisky 2000; Lane & McDonald 2005; Alexander 2008). In other words, the legitimacy of the management arrangement improves because stakeholders tend to support a management strategy that involves them in the process (Jentoft 1989; 2000).

3.2 Perceptions of and Attitudes Towards Resource Management

Natural resource management approaches over the past two decades have increasingly focused on the involvement of various stakeholders in the management process by sharing roles and responsibilities amongst them. However, it is becoming more apparent that mere participation of the relevant stakeholders is not enough to ensure effective resource management. Instead, research indicates that it is beneficial for all the stakeholders to also have shared perceptions with respect to regulations and management strategies (McClanahan *et al.* 2005; Broad & Sanchirico 2008; Hoehn 2009). Perceptions can refer to people's 'attitudes and understandings that reflect their habitual way of life, as well as their shared expectations' (Ala Uddin & Foisal 2005, p. 85). In management arrangements, shared understandings between stakeholder groups may enhance local support, which is increasingly viewed by practitioners as a necessity for successful management outcomes (Broad & Sanchirico 2008). However, some suggest that it is difficult to create a management strategy where all perceptions and attitudes are similar (Wilson 2003). Although there will be both common and conflicting perceptions, in many cases it is the recognition of these varying perceptions that can either 'catalyze or prevent

improvements to management' (McClanahan *et al.* 2005, p. 106). Understanding the perceptions of the varied stakeholders, therefore, can greatly assist in improving site-specific management (Hoehn 2009).

In the past, research has often focused on understanding the perceptions and attitudes of one particular group of stakeholders. Thus, studies have either focused on the perceptions of the resource users and communities towards an environmental management issue (Ala Uddin & Foisal 2005; Broad & Sanchirico 2008; Su & Cervantes 2008), or the perceptions of government officials (Macawile & Su 2009). However, there is increasing research that compares the perceptions and attitudes *between* stakeholder groups, to determine if perceptions can hinder or facilitate resource management (McClanahan *et al.* 2005; Alexander 2008). Su and Cervantes (2008) suggest that acknowledging the various perspectives in resource management can facilitate conflict resolution, and in turn generate more effective management practices. For example, McClanahan *et al.* (2005) compared the perceptions of resource users and managers towards fisheries area management in Kenya. Findings illustrated that government employees were more concerned with national and regional benefits (often indirect benefits) whereas fishers were more concerned with direct benefits, and in fact did not perceive benefits from the fishery system at all. Perceptions of area management were polarised between the two stakeholder groups. Although this area management system was successful in increasing fish biomass, the authors suggested that greater efforts were needed to communicate direct and indirect benefits to the fishers in order to reduce the disparity in perceptions and understandings between the stakeholder groups (McClanahan *et al.* 2005).

Unfortunately, past management approaches have often given little attention to stakeholder perspectives when designing resource management strategies. Broad and Sanchirico (2008) argue that local support is needed for successful management outcomes, requiring local perspectives to be included when management strategies are being developed. They implemented a study that focused on understanding community support for a marine reserve in the Bahamas by first understanding how local perspectives are generated. Their findings suggest that certain communities (such as

communities that are reliant on tourism) were more supportive of marine conservation creation than other communities (such as fishing communities). Furthermore, support of the marine reserve was often related to local community perspectives about local environmental conditions. Therefore, the authors argue that in order to ensure local support, it is essential that local perspectives and socio-economic variables are considered during the planning process, and that this should inform the development of management strategies.

Although extensive research on perceptions and natural resource management have not been undertaken, existing studies have acknowledged that understanding perceptions is an essential requirement for developing management strategies and ensuring functional management processes. As a result, researchers have highlighted the importance of adopting a multi-perspective approach to natural resource management, and in particular, small-scale fisheries management (Berkes 2003; McConney & Charles 2008).

3.3 Small-scale Fisheries Governance

The term 'small-scale fisheries' has been widely used in the last few decades by various groups that represent different points of view and different fishery contexts (FAO 2010). As a result, there is no single universal definition of the term. However, although not universally defined, small-scale fisheries have common characteristics and a variety of actions in the fishing process (Hauck 2008). These actions include catching the fish, processing, marketing and trade, consumption, and any boat and net maintenance required in the process (Staples *et al.* 2004). These related activities could be part-time, full-time, or even seasonal. The term 'small-scale' is often summarised as traditional, inshore, artisanal and/or subsistence (Berkes 2003; Hauck 2008; McConney & Charles 2008). Although these terms are often interchangeable, they can be used to refer to a range of fishers. Small-scale fisheries have been described as inshore, since they operate close to shore, are reliant on local resources, and the fishers themselves do not identify themselves with the offshore or industrial fisheries (McConney & Charles 2008). They may be artisanal in the sense that many fishers gain their skill from other community

members – knowledge that has been passed down for generations. Finally, for many small-scale fishers, fishing is an important livelihood strategy, harvesting marine resources for food and/or for income to meet basic needs (Berkes *et al.* 2001; Sowman 2006; McConney & Charles 2008). However, small-scale fisheries are not uniform within or across countries, and therefore need to be defined and considered within their own context (Berkes *et al.* 2001; Sowman 2006).

In 2002, the FAO estimated that there are approximately 135 million people worldwide that are directly or indirectly employed in small-scale fisheries (FAO 2005). However, historically, small-scale fisheries have been overlooked and marginalised (Berkes 2003). Management efforts have largely focused on commercial fisheries, due to the perceived economic benefits of the industrial sector. Management strategies that did exist for small-scale fisheries focused on conventional approaches, drawing largely on scientific and quantitative methods. These conventional approaches, however, undervalued human dimensions, disregarded local knowledge, focused on a top-down approach, ignored economic sectors and the politics of decision-making, and separated itself from cultural contexts (McConney & Charles 2008). Thus, conventional management failed to consider the social and economic aspects of the fishery system. This has been specifically detrimental to the small-scale fisheries sector. Consequently, governments have failed to effectively manage small-scale fisheries, which has resulted in overexploitation of marine resources around the globe, and has led to food insecurity and threatened livelihoods (Jentoft *et al.* 1998; Hara & Nielsen 2002).

As a result, in the last two decades there has been a shift towards an alternative management approach (Berkes 2003). This shift in approach coincided with new thinking in the international arena and included the introduction of concepts such as ‘sustainable development’, which aimed to create economic, social and environmental stability and prosperity. This evolution of thinking also produced the idea of ‘ecosystem-based management’, which indicated that predicting the behaviour of an ecosystem is often limited (Holling 2001), and that management of an ecosystem should consider all aspects

and living things, not solely one species. Furthermore, Holling (2001) explains that instead of assuming a one-equilibrium notion of an ecosystem, we should consider that there are multiple-equilibrium states, which for the most part are unpredictable. In other words, we should embrace the uncertainty and complexity of an ecosystem and manage it accordingly. Understanding small-scale fisheries systems as complex systems must also include a consideration of the social and economic aspects of the ecosystem. Management should not only consider scientific information, but also consider the information from the different stakeholders of the fishery, which would allow a broader understanding of its complexity. Complexity thinking also challenges the notion of one 'correct perspective' in a system (Berkes 2003, p. 11). Berkes (2003) indicates that understanding and managing a fishery, specifically a small-scale fishery, requires consideration of the different perspectives of many stakeholders – the fishers, the fishing community, the government officials and others. Conventional management, on the other hand, has focused on the perspectives of one stakeholder – the government, and because of this, the perspectives and ultimately the well being of many other stakeholders have been largely overlooked. Thus, as management moves away from the notion of a 'single species' or a 'single equilibrium state', it should also move away from the notion of a 'single perspective'. Instead, it should consider the multiple perspectives of the multiple stakeholders already involved (Berkes 2003). Consequently, information and perspectives should be exchanged and readily available to all those who participate in the system. McConney and Charles (2008) explain that moving towards a people-centred perspective can bring management 'closer to the reality of fisheries and fishers' (p. 6). Collaboration is needed among the different stakeholders in order for management practices and decisions to be transparent and thus experience can lead to improved management. This notion of shared decision-making, and shared understanding, is encapsulated in the concept of co-management.

3.4 Co-management: Concepts

The World Bank (1999) defines co-management as 'the sharing of responsibilities, rights and duties between the primary stakeholders, in particular, local communities and the nation state; a decentralised approach to decision-making that involves the local users in

the decision-making process as equals with the nation-state' (p. 11). This definition emphasises the *equal* sharing of power between government and local users throughout the management process. However, while some authors argue for equal power sharing (Symes 1997), there are those who argue for shared decision making (a partnership) that is appropriate to a particular context (Berkes 1997). Loucks *et al.* (2003) explain that the concept of co-management actually 'originates from the idea of democracy: the practice of social equity by vesting the power of government in the people being governed' (p. 154). While conventional management understands power to rest with government, co-management is about 'decentralization' of power or 'power-sharing', which requires government to relinquish some of its control. Carlsson and Berkes (2005) warn that often these definitions of co-management assume an ideal image of the state as 'some kind of monolithic structure' (p. 65), whereas in reality the state has many different faces expressed through different jurisdictions (local vs. provincial vs. national), ministries and ministers, often with conflicting interests and objectives. Disregarding the complexity of power sharing could lead to a misunderstanding of the functional component of co-management (Carlsson & Berkes, 2005).

Pomeroy and Berkes (1997) recognise these different faces of power sharing and describe them as hierarchies or as a spectrum of co-management (Figure 1). These hierarchies range from 'informing' and 'consultation' (where government has more control) to 'partnership' (where control is shared equally) to 'community control' (where most power lies within the community). Pomeroy and Berkes (1997) further explain the process of decentralisation, or in other words, the 'dispersal of power, authority and responsibility from central government to lower or local level institutions' (p. 469). In particular, these authors identify four different types of decentralisation: 1) administrative decentralisation (where power is transferred to regional offices of the national government), 2) delegation (some power is transferred to local officials but the central government retains power to overturn decisions), 3) devolution (where power is transferred to regional government without reference back to the central government), and 4) privatization (where some responsibility is transferred to non-governmental organisations or groups). Hara (2003) explains, though, that the type of control or power

sharing of a co-management arrangement is dependent on two aspects: 1) the capabilities of the user groups and 2) the willingness of the government to devolve its power and delegate responsibility.

Although co-management and its principle of power sharing are well documented in the literature, there are debates in terms of whether co-management is in fact successful in practice (Hara & Nielsen 2003; Ahmed *et al.* 2006; Castilla *et al.* 2007; Morenzo *et al.* 2007; McClanahan *et al.* 2009).

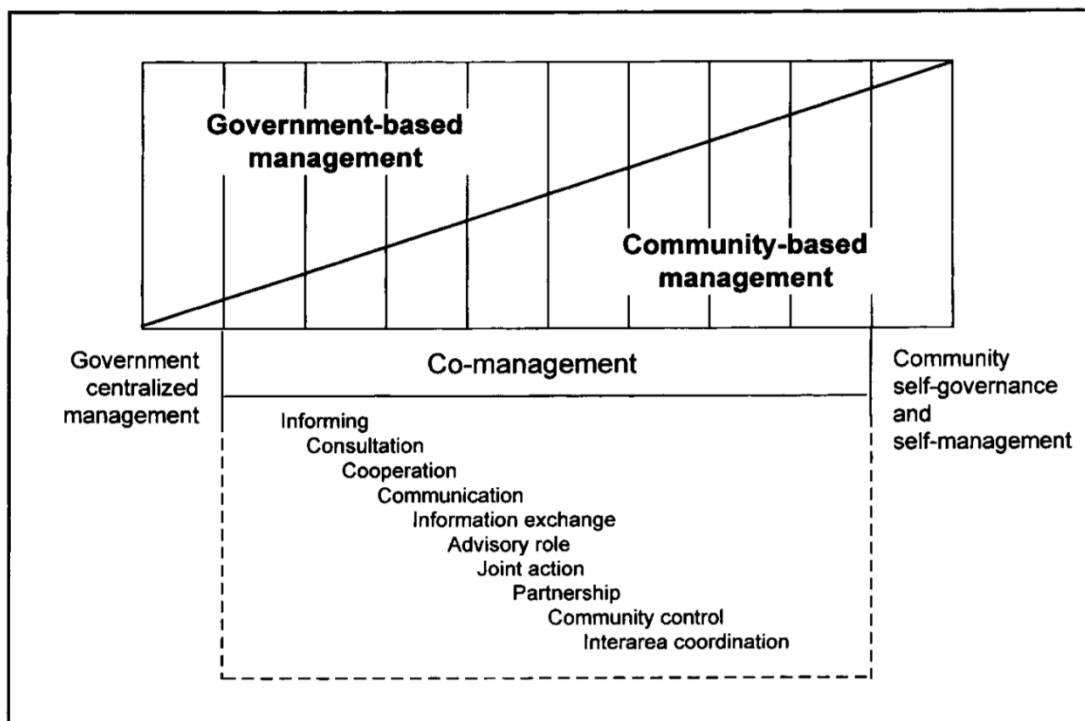


Figure 1. A classification of co-management arrangements (Source: Adapted from Pomeroy and Berkes, 1997).

Communities, institutions and governments are not static and therefore there cannot be a general definition to describe each stakeholder. Agrawal and Gibson (2001) note that many community approaches often view communities as a homogenous social structure. However, in reality, interests, perceptions and values vary not only between communities but also within the community itself. This generalization often leads to misunderstanding and miscommunication between the stakeholders, especially when there are multiple stakeholders at play. Within a country there are numerous communities *and* numerous

government agencies that have a vested interest in fisheries management. Accompanying these stakeholders is a heterogeneity of ideas, values and interests. Co-management, therefore, cannot be understood as the ‘interaction of a unitary state and a homogeneous community’ (Carlsson and Berkes 2005, p. 65).

Wilson (2003) argues that it is difficult for communities, institutions and government agencies to agree on a single standard form of co-management. Since their interests and agendas vary considerably, they are resistant to commit to the same norms. Therefore, it is essential that there are shared understandings, which can only be accomplished through rich, varied and continual communication (Jentoft 2003).

Like any other type of management, co-management is an on-going process, which continuously evolves and adapts. Lawrence (1997) perceives this process as a theory-practice cycle, in which theory is transformed into practice, and lessons learned from practice are transformed back into theory. This way, the cycle continues and management evolves and improves. Carlsson and Berkes (2005) similarly describe co-management as a problem-solving process. The authors explain that this process requires experimentation, and as a result, this can lead to co-management systems that ‘contain different competences and distributed decision-making’ (p. 74). Nursey-Bray and Rist (2009) warn that often co-management arrangements will face a variety of challenges which can lead to stakeholders feeling frustrated because they believe that their views and understandings have not been heard, their expectations have not been met, and that power has not been shared equally. However, the authors go on to explain that if stakeholders can recognise co-management as a continuous problem-solving process, they can also recognise that through the process, power-sharing can be achieved and co-management practices can improve (Nursey-Bray & Rist 2009).

3.5 Institutional Organisation of Co-management

The shift towards alternative management approaches also requires a change in the institutional structure so that it can effectively support co-management. This section will

give an overview of the literature describing the institutional transition needed for co-management, as well as the conditions that have created an institutional structure effective for supporting co-management practice.

3.5.1 The Transition from a Conventional Institutional Approach towards an Empowered Institutional Approach

Noble (2000) explains that institutional arrangements in a co-management system should ideally be ‘a way of decentralizing resource management decisions and improving participatory democracy and compliance’ (p. 69). However, the author also states that co-management arrangements have often been disorganised and slowed down due to institutional constraints. But this disorganisation is not because of an absence of institutions, but rather the incapability of conventional institutions to deal with recent developments (Nielsen *et al.* 2004).

Since most fisheries are usually under the custodianship of the state, the government is often the body that institutionalises the fisheries management process – which involves setting objectives, clarifying/providing the knowledge base, as well as facilitating implementation of decisions (Nielsen *et al.* 2004). However, it is difficult for these conventional institutions to adapt to a new management approach and address current problems of fishing communities due to their narrow focus on resource issues and their historical top-down approach (Degnbol 2003). This persistent conventional management approach is thus characterised as top-down (Fig. 2), which limits the involvement of the fishing communities and thus limits the effectiveness of co-management.

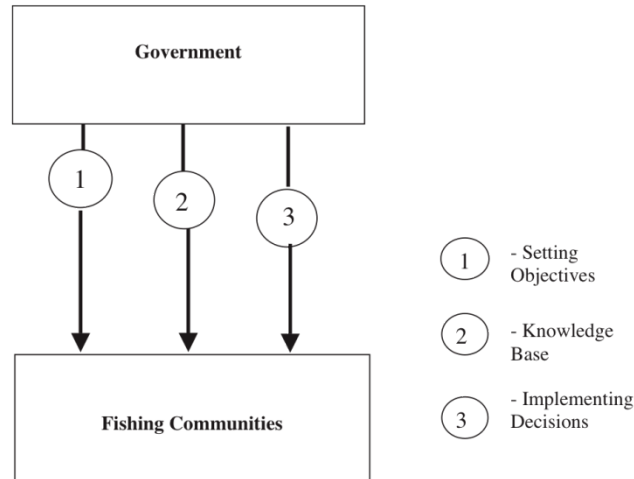


Figure 2: Conventional (top-down) approach to fisheries management (source: Nielsen *et al.* 2004).

However, Noble (2000) explains that if certain conditions are considered and implemented in the management process, then institutions will move towards a more decentralised and devolved state, and incorporate the various stakeholders into all aspects of the co-management process. However, frequently in co-management, government institutions limit fisher involvement to the implementation process, which Nielsen *et al.* (2004) describe as “instrumental co-management” (Fig. 3). In particular, governments are often hesitant to have other stakeholders involved in setting objectives or using knowledge from other stakeholders, which can cause frustration among the fishers. Nielsen *et al.* (2004) describe this frustration as the result of “instrumental co-management” as was experienced at Lake Malombe in Malawi. When co-management was initiated in this area, the fishing community had the expectation that empowerment and participation would ensue. However, the government department gave little support to the community structure, and continued with its standard conservation objectives. This ultimately led to a frustrated fishing community, a lack of legitimacy of the co-management system and unaccomplished management objectives (Nielsen *et al.* 2004).

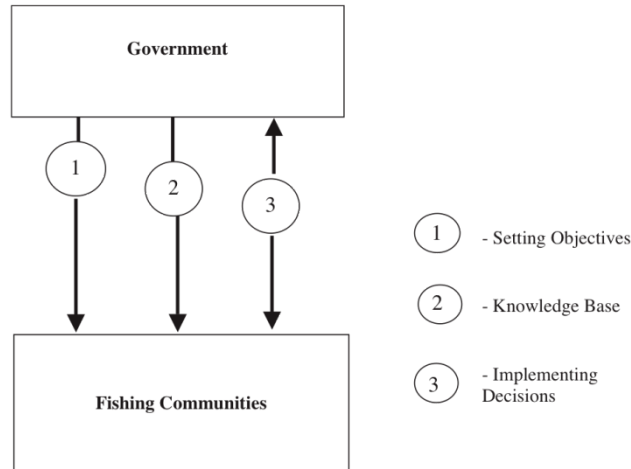


Figure 3: An “instrumental co-management” approach (source: Nielsen *et al.* 2004)

Instrumental co-management leads to a conflict of objectives, expectations and ultimately a conflict of understandings. In a review of African case studies, Hara and Nielsen (2003) found that since most African co-management initiatives are government driven, governments perceive co-management as ‘an alternative strategy to pursue the same old conservation objectives’ (p. 87). As a result, due to the government’s primary objective to conserve the resource, the government views co-management as a way to allow for community participation without relinquishing much of the government’s control in the decision-making process. Furthermore, decisions are primarily based on ‘scientific knowledge’ that is provided from government departments, and this reasoning for using this type of knowledge is rarely clarified to the fishers (Hara & Nielsen 2003). Conversely, the communities’ expectations of the co-management arrangement tend to be much different. Instead, most communities centre on economic objectives due to the effects of poverty and lack of alternative opportunities (Hara and Nielsen 2003). This contradiction shows that since there are varying perceptions of co-management objectives, each stakeholder believes that the co-management *process* should function very differently. The problem is that these varying perceptions are not shared among the stakeholders. Hara and Nielsen (2003) explain that governments are generally reluctant to set management objectives as part of the co-management process. And yet the most essential part of creating any management plan is to first indicate the desired objectives of all those involved, so that an appropriate management process can be designed. However, if the government is driving the co-management arrangement, it may be vague

of its objectives in order to influence particular outcomes. Not surprisingly, there has been limited success of instrumental co-management arrangements worldwide (Nielsen *et al.* 2004).

Instead, Noble (2000), Jentoft (2000) and Nielsen *et al.* (2004) explain that in order to create effective co-management, radical institutional change is needed, changes that are described in the institutional conditions described below. Once these conditions are met, co-management can move towards an empowered approach (Fig. 4). This approach involves fishing communities in setting objectives ‘on equal terms with the government’ (Nielsen *et al.* 2004; p. 155). A new knowledge base would also need to be explored. It should be anticipated that many of these objectives and new knowledge would pertain to socio-economic issues rather than solely focusing on biological issues. Capacity development would be needed at all levels of the institutional arrangement for both government officials and resource users. Finally, this approach would need a significant change in attitude from all stakeholders toward their roles in the arrangement. Nielsen *et al.* (2004) argue that an ‘empowered co-management’ approach would be more effective in fulfilling co-management objectives, although these objectives would be quite different from conventional conservation objectives of the past.

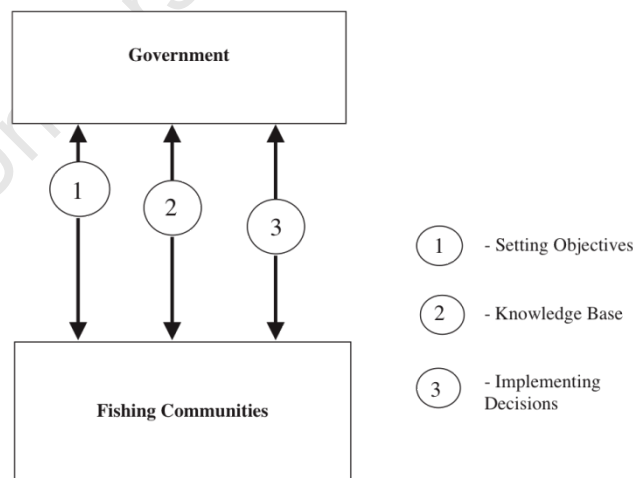


Figure 4: An ‘empowered co-management’ approach (source: Nielsen *et al.* 2004)

Institutionally, Jentoft *et al.* (1998) state that co-management should ‘not [be] so much about the rules per se as it [should be] about the communicative and collaborative process

through which these rules are formed: who participates, how debates are structured, how knowledge is employed, how conflicts of interest are addressed, and how agreements are reached' (p. 427). And although none of the authors can guarantee that the conditions mentioned below will lead to success (as it is a difficult process to transform the institutional organisation), they do promise that by creating a collaborate process in all aspects of co-management, it will improve the legitimacy of co-management, and ultimately gain more support from the involved stakeholders to create a more effective partnership.

3.5.2 Conditions for Improved Institutional Organisation and Practical Effectiveness in a Co-management Arrangement

Noble (2000) and Nielsen *et al.* (2004) suggest that there needs to be a transformation of the institutional arrangements of co-management, especially in terms of governance institutions. Likewise, in the last two decades extensive research has been conducted worldwide to investigate the effectiveness of co-management in practice (Pomeroy *et al.* 2001; Hara & Nielsen 2002; Jentoft 2003; Sowman *et al.* 2003). Research extends throughout numerous countries in Asia, Africa, Europe, and the Americas, and much of the research found similar factors and/or conditions affecting the success of small-scale fisheries co-management – many of which pertain to the level of shared understandings and perceptions among stakeholders. These authors also suggest conditions that should guide institutional arrangements in order to move towards an empowered approach, which will create effective co-management practice. This following section will outline and delve into the conditions that pertain to the need for shared perceptions and common understandings among stakeholders.

3.5.2.1 A Clear and Planned Arrangement

Before any co-management arrangement is initiated, it is important that all aspects of the arrangement (such as objectives, rules, responsibilities and process) be clarified. Pomeroy *et al.* (2001) found that the lack of clarification in the beginning can lead to misunderstandings and confusion in co-management practice. Similarly, research has indicated that often in fisheries management, perceptions of objectives differ among the stakeholders, both among resource users and between levels of government (Charles

1982; Hutchings *et al.* 1997; Pomeroy & Berkes 1997). Co-management is about creating and strengthening a partnership among the various stakeholders, but Noble (2000) warns that this partnership must be based on an understanding that the objectives and means to achieve these objectives might differ among partners. Thus, in order to have an effective co-management arrangement, it is important that 'differences be overcome and commonalities in interest be sought as the building blocks for consensus' (Noble 2000, p. 74).

Katon *et al.* (1997) found that fisheries management tended to be more successful when all stakeholders had a good understanding of the *reasons* for co-managing the resource and the results they envisaged. Likewise, Pomeroy *et al.* (2001) discovered that one of the primary reasons for failure of co-management in some fishing communities in the Philippines was due to the fact that there was not a shared understanding of the co-management objectives among the stakeholders. In particular, many of the resource users (other than the government) did not understand the reason for initiating co-management nor the problems facing the resource. As a result, many of the resource users were not invested in the management program. This could have been avoided if clarification of objectives had occurred early in the management process.

Several authors, including Ostrom (1994), Borini-Feyerabend (1996), and Berkes *et al.* (2001), found that clearly defined management boundaries and membership also reduces confusion and ultimately creates a basis for better co-management practices. Boundaries should include the physical area, species to be fished, activities, the management unit and the players that are involved in the management process. Ostrom (1994) particularly argues that defining the process and membership must be the first step for collective action. Hara (1997) describes that the CAMPFIRE program in Zimbabwe sets a principle of 'security of tenure' for the users, which in turn motivates them to invest in the resource and can ultimately improve management. Furthermore, Pomeroy *et al.* (2001) argue that once boundaries and memberships are clearly defined, it is much easier to create effective communication among stakeholders, and ultimately more inclusive decision-making.

McConney & Charles (2008) insist that a 'clear and shared directions helps to orient collective action' towards small-scale fisheries management (p. 18). Thus, policies and legislation should provide a clear framework for co-management arrangements, which in turn describe the authority and control, the decision-making arrangements, the roles and responsibilities of the relevant stakeholders as well as membership, and provide the legal rights for fisher groups to make their own arrangements (Berkes *et al.* 2001; Pomeroy *et al.* 2001; Hara & Nielsen 2002). Creating a formalised, legal and multi-year agreement will help to overcome differences and create a consensus (Pinkerton 1989). This agreement, as well as the management strategy, must be based on a long-term plan, since it may take many years for the institutional arrangements to reorganise to include other stakeholders in the decision making process and build a partnership (Noble 2000). Policies and legislation can provide a basis for co-management arrangements; however having site-specific formal agreements also improves success. Pomeroy *et al.* (2001) found that the Local Government Code (1991) in the Philippines allowed for the decentralization of power from the national government to the local government and community organisations. This power shift, as a result, allowed for co-management arrangements to prosper in their respective areas.

3.5.2.2 Expanding the Knowledge Base

Conventional management practices were often based on one type of knowledge – scientific knowledge. Since co-management promotes the involvement of multiple stakeholders, there is an increasing recognition of the need to include a variety of knowledge sources. This includes scientific knowledge, as well as social, economic, and traditional knowledge. Indigenous knowledge and local practices have increasingly been recognised as valuable for management. Wilson *et al.* (2006) explain that fishers have experience-based knowledge, which can be passed down from generation to generation. This type of knowledge includes resource population dynamics, congregation areas and seasonal information. Baird *et al.* (1999) explains that fishers on the Mekong River used their own knowledge to promote fishing restrictions in the deep pools during the low season since this when the populations were most vulnerable.

However, Wilson *et al.* (2006) also note that with this new knowledge base comes the need for transparency. Stakeholders must be able to articulate to others how they know what they know. Because of this, scientific knowledge is frequently upheld as thoroughly transparent, whereas traditional knowledge does not get the same recognition. As a result, vulnerable groups (such as fishers) can be excluded since they often have a more difficult time articulating themselves (Wilson *et al.* 2006). Continuous communication, however, can allow a space for fishers to voice their opinions and knowledge more frequently and more comfortably. This communication also requires other stakeholders to be transparent about the knowledge they present.

Most importantly, however, is that the various stakeholders have an understanding of the different types of knowledge that will be used during the co-management process. It is possible that stakeholders will come from culturally different backgrounds so cultural perspectives need to be shared and negotiated (Nurse-Bray & Rist, 2009).

3.5.2.3 Interactive Organisations

Research suggests that in fisheries management, organisations that are interactive and cooperative can overcome many more challenges than socially fragmented organisations (Trist 1983). In particular, Gunderson *et al.* (1995) suggest that an interactive horizontal institutional is much more effective than a top-down approach. One of the primary challenges to this type of set-up is that the various stakeholders will often have a heterogeneity of values, understandings and ideas, which can cause conflict. Begossi and Brown (2003) explain that conflict between government and fishers is more likely to arise when there are conflicting understandings of the management process, primarily due to decisions on rules and enforcement being taken ‘behind closed doors’ (p. 148). The authors further explain that this behaviour can start a cycle of decisions being taken without stakeholder discussion – and often these ‘decisions are not reversed as a result of the belated consultative process’ (p. 148).

Wilson *et al.* (2006) argue that communities need the government during conflict situations, and further asserted that community-based management is not sufficient for

handling conflict management. Even so, conflict can arise between any and all stakeholders involved in co-management, including government, whether it be 'economical, social, political, moral, emotional or historical' conflict (Nursey-Bray & Rist 2009, p. 125). Therefore, it can help to have one stakeholder act as a facilitator for such forums. Noble (2000) suggests that an advisory organisation is needed, or in other words a person or group that 'applies consistent pressure to advance the process' (p. 71) and can remain in contact with stakeholders at all levels so that communication is continuous. This stakeholder group or organisation can be an extension of a government department, a non-governmental organisation (NGO) or a research/academic institute – as long as the body has the resources to facilitate. However, it is also important that there is not substantial dependence on one stakeholder to resolve conflicts. Khan and Apu (1998) explain that in their studies of co-management arrangements in Bangladesh, conflict resolution is more effective when the resource users are actively involved in formulating rules and enforcement throughout the management process. This would also allow users to gain a comprehensive understanding as well as shared perceptions with the enforcement regulators. Nursey-Bray and Rist (2009) explain that no matter the context, co-management is a power-sharing arrangement, and with any power sharing comes a need for conflict resolution mechanisms. However, once stakeholders achieve shared understandings and experiences, then conflict can be reduced (Reagans & McEvily 2003).

3.5.2.4 Participation, Empowerment and Support

Jentoft (1989; 2000) and colleagues (Jentoft *et al.* 1998) frequently speak of the legitimacy of a co-management arrangement, which indicates support for the system and a willingness to create partnerships. As a result, Jentoft (2000) indicates that the role of co-management institutions must be to 'serve as places for communication and deliberation on the procedures, goals and means of the regulatory system' (p. 141). Noble (2000) also explains that in order for co-management institutional organisations to be successful, the interests of the various stakeholders must be shared – since the purpose of co-management is to 'respond to local needs and objectives as fishers, communities and organisations perceive them' (p. 72). Thus, institutions must provide a space for stakeholders to communicate to create a shared understanding of the objectives and the

process to achieve such objectives, and ultimately to transfer power from a few people to many more stakeholders. This will ultimately lead to increased support and effectiveness of co-management.

The key activity to ensure this power shift is to establish stakeholder participation. Participation provides a platform for stakeholders to express their views and share their understandings with other stakeholders. By doing so, participation becomes ‘an attempt to produce an over-arching common interest’ (Kaler 1999, p. 125). Wilson (2003) explains that participation is important for both ethical and practical reasons. Firstly, people have a right to participate in decisions that will affect their lives, and secondly, participation in the decision making process ‘strengthens people’s commitment to outcomes’ (Wilson 2003, p. 18). Thus participation (or sharing views and perceptions with others) is an essential part of the co-management process.

But in order to gain effective participation from the fishing communities, it is essential that these communities be empowered first. Empowerment should include capacity building of the community in order to become more self-reliant and to create grounds for a balanced decision-making process (Berkes *et al.* 2001; Pomeroy *et al.* 2001). After reviewing co-management arrangements in Bangladesh, Thompson *et al.* (1999) warn that if power is not balanced among the stakeholders, co-management can be easily hijacked by those holding more power. Instead, these authors found that empowerment can reduce hierarchy and create an equal playing ground for the stakeholders. And once stakeholders are empowered, they gain the competence and confidence to express their opinions, interests and understandings (Jentoft 2005).

Empowerment actions (such as information access, training and education) can increase the skills and knowledge required to address the complexities of fisheries management. Pomeroy *et al.* (1996) advise that in order to reduce harmful fishing practices, stakeholders must be informed about new management strategies, skills and technologies.

However, capacity building should not only include technical elements, but should also address attitudes and behavioural patterns in order to ensure effective management (Pomeroy *et al.* 2001). Stakeholders must possess the same attitudes and understandings in order to create motivation, and have access to shared knowledge in order to prepare them to perform new management tasks. Empowerment of the resource users can improve both skills and attitudes of the individuals, which can ultimately create more able and willing stakeholders to participate in the co-management arrangement.

3.5.2.5 Summary of Conditions

The previous section has also outlined that co-management arrangements worldwide face similar challenges, however, research has also indicated that there are certain conditions that if adhered to can help improve the effectiveness of co-management. Many of these conditions have a common underlying issue – that it is critically important to have clarity, shared understandings and perceptions among the stakeholders in order to improve co-management practices.

3.6 Co-management and Small-scale Fisheries: The South African Context

This section of the literature review focuses on the context of co-management in practice in South Africa. It begins by providing a brief historical overview of fisheries management in the country as many political actions of the past have framed fisheries management in today's South Africa (Hasler 1998).

With more than 300 years of colonial rule and 45 years of apartheid, South Africa has a history of inequality. Numerous laws and policies passed in the early and mid-20th century denied black South Africans ownership and access to resources and the coastline (Hauck & Sowman 2001). Various laws were promulgated during the apartheid era to determine access to the coastline and resource use, particularly targeted at recreational and commercial users. Due to a lack of communication and high levels of poverty, many of the rural communities were unaware of the coastal laws and also did not have the means to acquire the necessary permits (Hauck & Sowman 2001).

Under various Sea Fisheries Acts, the Minister had the power to determine the Total Allowable Catch (TAC) for the fisheries sectors. During apartheid, the distribution of TAC allocations was heavily skewed to give support to predominantly ‘white’ commercial operators over ‘black’³ small-scale fishers (Hauck & Sowman 2003; Hersoug & Holm 2000). For example, at the end of the apartheid era, only 0.75% of the total commercial TAC of all species was given to ‘black’ ethnic groups (Hauck & Sowman 2003). A few large-scale companies largely dominated the quota distribution, and as a result, these companies had a monopoly on the access to marine resources (Hersoug and Holm 2000). These discriminatory practices made it near impossible for most marginalised groups to gain access to marine resources and participate in the commercial sector.

In addition to the commercial sector, past fisheries legislation also focused on providing rights of access to the recreational sector (Hauck & Sowman 2003). Other resource users, however, who harvested for food for example, were not formally recognised by historical fisheries laws in South Africa. Inequality within the fishing industry persisted until new legislation aimed to correct these past injustices following South Africa’s democratic elections in 1994. Much of the legislation that emerged in the post apartheid era aimed to resolve some of the problems and conflicts mentioned above. Although many of these issues have been addressed in current legislation, due to the complex history of South Africa in terms of fishing policy and social inequity, these problems have persisted in the small-scale fisheries sector today (Hauck & Sowman 2003).

3.6.1 Policy and Legislative Frameworks: Post Apartheid

3.6.1.1 Reasons for Adopting Co-management

Following the end of Apartheid, South Africa re-entered the international community and as a result, new policies and laws were greatly influenced by international trends and

³ The term ‘black’ encapsulates previously disadvantaged groups in South Africa, referred to as ‘African’, ‘coloured’ or ‘Indian’ in apartheid policies.

debates (van Sittert *et al.* 2005). The most influential concept at the time (late 1990s) was sustainable development, which aimed to uphold economic, social and environmental justice. Similarly, the new government strived to address past social injustices, which included inequalities to land and resource use (Harris *et al.* 2002). The Constitution of 1996 set out principles that guided resource management. Within the Constitution (1996), it states that there should be equitable access and sustainable use of natural resources, access to information and public involvement in decision-making and management (Hauck & Sowman 2003). The constitution also emphasises the priority to restore the rights of previously disadvantaged people:

The State must respect, protect, promote and fulfil the social, economic and environmental rights of everyone and strive to meet the basic needs of previously disadvantaged communities; (DEAT 1998, Preamble: lines 6-9).

These underlying principles also stressed the importance of community involvement and partnership among stakeholders in resource management, which became a leading theme in many of the policies and Acts developed in the following years.

But correcting past social injustices was not the only rationale for implementing co-management in South Africa. As Hauck and Sowman (2003) describe, co-management was also seen as a response to over-exploitation of resources, an increase in illegal activities, and tension between conservation authorities and local communities. Furthermore, due to the large area of South Africa's coastal zone (which spans over 3000 kilometres), it was difficult to implement management policies from afar. This was especially evident in remote settlements that are located hundreds of kilometres away from large cities and government offices, many of which are based in Cape Town. Hence, co-management was deemed a suitable solution as communities could continue to manage the resource when government did not have the means or human resources to do so. Since then, a number of co-management projects have been initiated throughout the country.

3.6.1.2 Policy Reform

Possibly one of the biggest legislative influences on environmental management (and later the force behind co-management) in post-apartheid was the National Environmental Management Act (NEMA) of 1998. NEMA also mirrored the principles outlined in the Constitution (1996) but also provided further guidelines on procedures and mechanisms for managing the environment. Specifically, it outlines the importance of cooperative governance and partnership, inclusion of civil society in environmental governance, conflict resolution procedures, improved decision-making mechanisms (which allows for transparent decisions), fair access to resources, and equitable participation (DEAT 1998a; Hauck & Sowman 2003). Most importantly, NEMA provided the legal foundation to formalise co-management – by stressing the importance of sharing management responsibilities among the various stakeholders (Hauck & Sowman 2003). The principles of this Act provided a basis for developing South Africa's new small-scale fisheries and coastal management policies and legislation (Hauck & Sowman 2003).

In 1998 the Marine Living Resources Act (MLRA of 1998) was promulgated and in addition to ensuring the sustainability of marine resources it focused on the transformation of the fishing industry. This transformation was based on three principles: social equity, economic stability, and ecological sustainability (Witbooi 2006), which reflect the objectives of sustainable development. It laid out the ground rules that any body of government needed to follow and implement into the fishing sectors. The MLRA was also the first piece of legislation that recognised and defined the subsistence fisheries sector (Sowman 2006). The MLRA divides the fishing industry into three main sectors: commercial, subsistence and recreational (Sowman 2006). The primary purpose in defining and creating a separate sector for subsistence fishers was to: 1) address the needs of these fishers by creating a special permit system and 2) decrease the overexploitation of many coastal species throughout the country (DEAT 1998b). Although the subsistence sector was finally recognised in law, the MLRA definition of subsistence was narrow. This definition excluded many small-scale fishers including traditional fishers, which was a critical flaw of the Act (Sowman 2006). As a result, in 2000 the Subsistence Fisheries Task Group (SFTG), a group appointed by the national agency MCM, recommended that

another category of fishers be identified to include small-scale fishers and that an appropriate management system be developed for their management (Isaacs 2006; Sowman 2006). However, clarifying and formalizing a small-scale fishery sector in South Africa did not take place and the government instead put in place a Subsistence Fishers Management Unit (SFMU) – a management branch, located within the national fisheries authority, dedicated to guiding the subsistence sector (Sowman 2006).

Through the Constitution (1996), resource management responsibility was delegated to national, provincial and to some extent local competence. However, since 1998, MCM has the authority for marine resource management (Sowman *et al.* 2003). The sole exception to this is the province of KZN, where EKZNW (the provincial authority) has been assigned certain fisheries management responsibilities (Sowman *et al.* 2003). Although the MLRA laid out the principles and guidelines for the fishing sector, the Act fails to address how these principles should be practiced on the ground (Witbooi 2006), especially in terms of the new subsistence sector. As a result, the SFTG was appointed to advise on the implementation of subsistence fisheries in South Africa. In particular, the SFMU aimed to identify subsistence fisheries within the country and co-ordinate/manage activities within the identified fisheries (Kashorte 2003). The SFMU was also designed to distribute application forms and issue permits within the communities (Harris *et al.* 2007).

KZN has its own dedicated subsistence management branch at the provincial level, and as a result EKZNW with the Subsistence Fisheries Implementation Unit (SFIU – KZN branch) have an implementation plan and thus a rollout of co-management (Hauck & Sowman 2003). All other provinces are currently managed at central government level by MCM. However, the co-management arrangements in the rest of South Africa are largely ad hoc and depend on researchers and NGOs to initiate and implement co-management (Hauck & Sowman 2003).

3.6.2 Challenges of Co-management Arrangements in South Africa

There have been several co-management arrangements that have been initiated across South Africa, and some arrangements have been operational for up to 15 years. However, even though some of them have had relative success and are still functional, all of them have faced challenges similar to co-management systems elsewhere in the world.

Co-management arrangements in South Africa have different institutional structures, which is dependent on the province in which the arrangement is located⁴. However, research indicates that devolution of power has been a critical challenge in South Africa. In particular, the national authority (MCM) has been reluctant to engage in co-management and transfer its power to other levels of government, especially more locally based, which has caused challenges for many co-management arrangements in South Africa (Hauck & Hector 2003; Russell & Kuiper 2003; Sowman *et al.* 2003). MCM has also been reluctant to commit to co-management arrangements, whether it is due to a lack of capacity and resources within the department, or confusion over roles and responsibilities (Sowman *et al.* 2003). As a result, research suggests that often it is long-term ‘champions’ (or persons involved in co-management arrangements) that have been responsible for driving co-management in South Africa. Champions can provide support, motivation and encouragement to the stakeholders in order to push the co-management process along (Harris *et al.* 2003). Specifically, these “champions” play an important role in keeping the local stakeholders up to date on legislative and political changes (Sowman *et al.* 2003).

Clarification and acceptance of objectives by all stakeholders is also essential in a co-management arrangement. Sowman *et al.* (2003) found that in a few case studies in South Africa, objectives were ‘not jointly agreed upon, understood or supported by the different stakeholders’ (p. 311), and as result differences in expectations remained unresolved. However, this confusion can be avoided if there is proper institutional organisation that

⁴ The institutional structure of the co-management arrangements of this research project will be discussed in further detail in Chapter 4 – Case Studies.

supports community empowerment and stakeholder participation. Most of the fishers involved in co-management arrangements in South Africa live in poverty (Branch *et al.* 2002), and have historically been marginalised due to the country's history of inequality. Because of this, even if fishers do have a structure to voice their opinions, they often feel intimidated and overwhelmed (Sowman *et al.* 2003). However, training and capacity development will allow the community to: 1) gain the knowledge about the concepts of co-management and relative objectives to ensure stakeholders share common understandings, as well as 2) require the skills to participate equally with other stakeholders in the co-management arrangement so that their perceptions and voices can be heard. Once the stakeholders believe that there is meaningful participation in the co-management activities and decision-making process, and believe that their voices can be heard, their commitment to the arrangement will solidify. Sowman *et al.* (2003) describe commitment as 'acceptance of the principles' (p. 309) – and in order to achieve this acceptance, perceptions and understandings must first be shared.

Small-scale fisheries in South Africa have gone through drastic management changes within the last fifty years. The principles of South Africa's new Constitution, along with the development and promulgation of new environmental and marine management policies, has led to the adoption of co-management for small-scale fisheries management. However, confusion among government departments in regard to management responsibility, lack of clarity in terms of defining small-scale fishers, and a history of conflict among the various stakeholders, created a difficult start for many of the co-management arrangements initiated in the country within the last 15 years. Co-management was adopted in order to overcome many past challenges of social inequity and resource degradation, and yet many new challenges persist, which have been described above. Interestingly, many of the challenges that co-management arrangements currently face in South Africa also correlate with challenges that co-management arrangements face at an international level – challenges that stem from differing perceptions and understandings of co-management.

3.7 Conclusion

There are many challenges that co-management arrangements in this country have faced, and many of these challenges are also present at the international level. Many of these have the underlying notion that the stakeholders involved do not share the same perceptions, understandings or expectations. Literature at a national and international level discuss the importance of shared understandings of co-management objectives and benefits (Pomeroy *et al.* 1996 & 2001; Sowman *et al.* 2003; McConney & Charles 2008); the need to clarify roles and responsibilities (Ostrom 1994; Borini-Feyerabend 1996; Carlos & Pomeroy 1996; Hara & Nielsen 2002), as well as rules and regulations (Katon *et al.* 1997; Baird *et al.* 1999; Sowman *et al.* 2003); institutional arrangements must transform to provide support for communication and participation (Noble 2000; Nielsen *et al.* 2004); and that active participation from all stakeholders is needed so that different perceptions, understandings and knowledge can be shared (Sowman *et al.* 2003; Wilson *et al.* 2006, Nursey-Bray & Rist 2009).

As a result, research has suggested that recognizing and understanding the various perspectives on co-management objectives, incentives, and other practices can also lead to improved management. In particular, research has suggested that stakeholders' perspectives should be identified and included early in the planning process so that they can inform and become immersed in the development of management strategies (Broad & Sanchirico 2008). Furthermore, the local community should be empowered so that the State care share the principles of sustainability and that the community can gain the confidence to also share their principles and views (Berkes *et al.* 2001; Pomeroy *et al.* 2001; Sowman *et al.* 2003).

However, there has been very little research that has focused directly on comparing perceptions of the various stakeholders involved in co-management, how perceptions are developed, or how disparities in perceptions could be causing practical challenges. In view of the fact that co-management promotes the sharing of management responsibilities and decision-making power among the stakeholders, it is also vital that

stakeholders also share and understand each other's perceptions. Thus, this research project will analyse the various stakeholders' perceptions towards co-management in theory, as well as their understandings and experiences of co-management in practice. Furthermore, this research project will identify any differences of perceptions between stakeholder groups, and possible reasons for how and *why* these differences exist.

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4. Case Studies

This chapter presents a description of the four case studies of this research project, two in KwaZulu-Natal (KZN) province, one in the Eastern Cape (EC) province and one in the Western Cape (WC) province. Each case study has its own unique history, ecosystem dynamics, social dynamics and fishing practices. Similarly, the co-management arrangements in each community, although they have some commonalities, also have unique characteristics. Subsequently, each of the four case studies will be outlined based on the geography (Figure 5), socio-economic context, marine resources, fishing practices and summary of the co-management arrangement in each area. Three stages of co-management have been identified (Hauck & Sowman 2005): 1) Planning and Development, 2) Implementation, and 3) Monitoring and Evaluation. These stages will be used to summarise the progression of the co-management arrangements for each case study site.



Figure 5. Map of South Africa and the geographical location of the four case study sites

4.1 The Province of KwaZulu-Natal, South Africa

This following section will provide an overview of the co-management approach in the province of KZN, which is applicable to the two case studies Mfazazana and Nonoti. Following this, a brief context of each case study will then be provided.

The province of KwaZulu-Natal (KZN) is currently unique in its approach to small-scale fisheries management. Although the national fisheries authority, MCM, is still responsible for aspects of management, the provincial conservation authority, EKZNW, has been assigned certain fisheries responsibilities, especially in terms of managing small-scale subsistence fisheries (Harris *et al.*, 2007). The KwaZulu-Natal Nature Conservation Management Act (1997) initiated a process to set up Local Conservation Boards. These Boards included representatives from local communities and promoted shared management responsibility and decision-making (Hauck & Sowman 2003). Then in 2000, EKZNW launched the Subsistence Fisheries Management Implementation programme, which allowed for a partnership between the provincial authority (EKZNW), MCM and the fishers in respect of management (EKZNW 2001; Harris *et al.* 2007). This programme aimed to: 1) identify all subsistence fisheries and their respective communities within the province, 2) develop and establish co-management structures within the communities, 3) develop a permit application process and 4) implement a resource monitoring system (Harris *et al.* 2007). This programme was largely funded by the national Marine Living Resources Fund (MLRF) and continues to be supported by EKZNW in terms of logistics, administration and staff time (Harris *et al.* 2007).

MCM subsequently devolved some of its authority and brokered a contractual agreement with EKZNW in 2000 (Harris *et al.* 2007; EKZNW 2010a). EKZNW then developed the Subsistence Fisheries Implementation Unit (SFIU) as the institutional structure responsible for overseeing fisheries co-management arrangements within the province. The SFIU is funded by MCM (now through DAFF) but works closely with officials from EKZNW (refer Figure 6). Officials of the SFIU act as facilitators within the communities and allocate permits received from the MCM headquarters in Cape Town. EKZNW

officials, on the other hand, are responsible for other duties such as enforcement and environmental awareness.

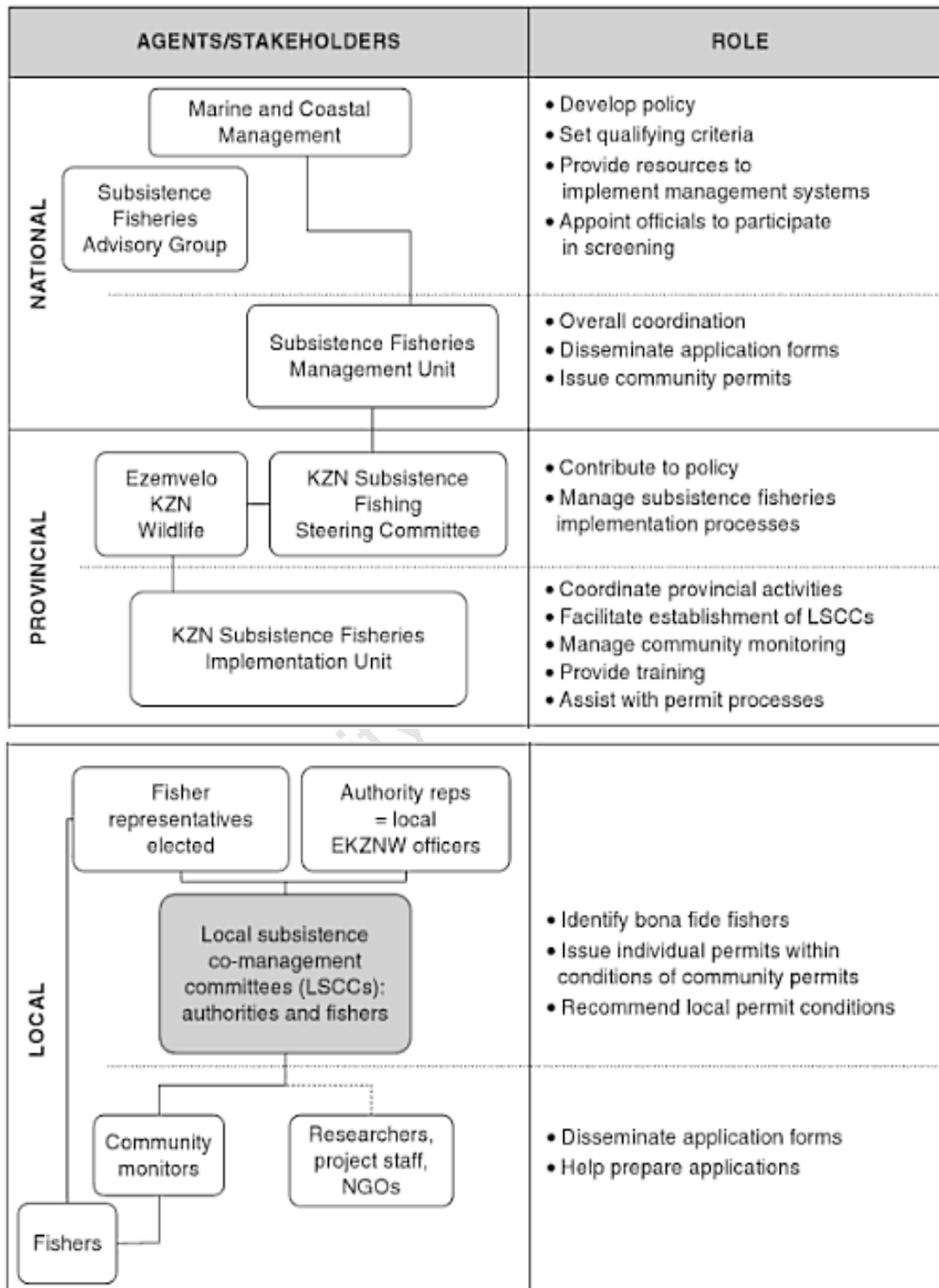


Figure 6. Institutional structure (at a national, provincial and local level) and process for implementing subsistence fisheries in KwaZulu-Natal. Source: Harris *et al.* (2007).

4.1.1 Evolution of Co-management in KZN

The variety of marine resources along the coast of KZN have long been a source of food and livelihood for many communities. In particular, brown mussels (*Perna perna*) have historically been among the primary resources harvested along the coast of KZN, by both recreational and subsistence fishers (Tomalin & Kyle 1998). However, research has indicated that this subsistence harvesting can significantly exhaust mussel stocks and eventually alter the marine ecosystem (Dye *et al.* 1997). Prior to the MLRA in 1998, mussel harvesting in KZN was controlled by a recreational licence and bag-limit system (Harris *et al.* 2003). Subsistence fishing was not recognised and was considered illegal by the law enforcement authorities of the provincial conservation department at the time. But despite the presence of enforcement officers, large-scale ‘illegal’ fishing would occur during the night. Furthermore, during the 1990s, violent conflicts between subsistence fishers and law enforcement authorities became a regular occurrence (Harris *et al.* 2003). It was during this time that individuals within EKZNW began to recognise that neither the fishing communities nor the marine resources were benefiting from this management system, so alternative approaches began to be considered.

Co-management was identified as a new management approach by the provincial authority as a strategy that most closely reflected the principles outlined in many new policies and legislation. Due to the continuous conflict between subsistence fishers and management authorities in the community of Sokhulu, this area was chosen by the provincial authority as a pilot study for co-management. Thus, in 1995, the Sokhulu mussel co-management project was launched. There were four key objectives of this project: 1) to determine the impact of subsistence harvesting on the coast, 2) to provide legal access to subsistence harvesters, 3) to create sustainable harvesting, and 4) to create a co-management arrangement between the harvesters and the governing authority (Harris *et al.* 2003). A committee was set up among the stakeholders – including local mussel harvesters (mostly women), the governing authority (now EKZNW) and researchers from UCT – and this committee still persists today (Harris *et al.* 2007). A community-based monitoring system was also put into place in order to record the data of the harvesting activities. The monitors also ensured that proper harvesting tools were

used in order to reduce the negative impact on the resource. The committee then used the information obtained from the monitors to make informative decisions (EKZNW 2009a). Fifteen years later, the co-management arrangement is still in place. Although the project has faced challenges, it has also improved relations between officials and harvesters, promoted community involvement in decision-making, reduced poaching and improved skills and confidence within the community (Harris *et al.* 2003).

4.1.1.1 Planning and Development of Co-management

The operational success of the co-management arrangement at Sokhulu has largely influenced EKZNW to initiate other co-management initiatives in other communities along the coast of KZN. This is largely because many communities also faced the initial struggles and conflicts with law enforcement authorities as the Sokhulu community did in the early 1990s. This, coupled with the promulgation of the MLRA (1998), which promoted multi-stakeholder involvement in management systems, as well as the newly recognised subsistence fishers sector, was the rationale and the push to adopt a co-management approach (EKZNW 2001). It was decided that since there was a diverse range of small-scale fisheries across the KZN coast, it was important that the province agreed upon a clear and consistent approach to implementation (EKZNW 2001). In 2001, the SFIU was formed to dedicate full-time to the identification of small-scale fisheries in KZN as well as the implementation of local co-management structures within these communities (EKZNW 2001).

4.1.1.2 Implementation of Co-management

Once the relevant small-scale communities (such as Mfazazana and Nonoti) were identified as possible sites for co-management, the communities were contacted. Since many communities did not have liaison structures, it was important that members of EKZNW first contact the traditional authorities and request assistance from them (EKZNW 2001). A series of workshops and meetings were then set up with fisher representatives from the area (EKZNW 2001). However, it was the extension officer from the SFIU that was responsible for explaining the national regulations, requirements and processes to apply for subsistence permits (EKZNW 2001). During these initial

meetings, the different fishery types were also identified and the approximate number of fishers engaged in these types of fishing was explored (EKZNW 2001).

A local subsistence co-management committee (LSCC) was then formed through democratic elections amongst the fishers of the community, but also included representatives from EKZNW and the SFIU (EKZNW 2001) (Figure 7). In many of the co-management arrangements in KZN, two LSCCs were formed – one for the intertidal fishery and one for the line fishery. The two LSCCs were then briefed in detail about the MLRA regulations. A Constitution was then formed for each LSCC, which guides the decision-making of the co-management arrangement (EKZNW 2001). Furthermore, members of the LSCC were trained in committee structures, operation procedures, resource management principles and basic ecology (EKZNW 2001).



Figure 7. The interaction of government officials and fishers/harvesters at the local level of co-management in KZN.

Members of the SFIU and EKZNW were then assigned to engage with the community on a regular basis to discuss co-management practices. In particular, one extension officer was appointed from the SFIU in order to play a facilitation role, responsible for arranging the dates and attendance of the monthly meetings. Likewise, two officials from EKZNW were also appointed to engage with the co-management arrangement – 1) a District Conservation Officer (DCO), responsible for explaining the laws and permit conditions to the committee and 2) a Community Conservation Officer (CCO), responsible for giving advice and information to the committee on sustainable management practices (EKZNW 2001; EKZNW 2010a).

Once these officials were appointed to the specific co-management arrangement, the LSCC and the officials then started to meet on a regular basis and prepared for the annual permit application process (EKZNW 2001).

4.1.1.3 Monitoring and Evaluation

A monitoring system has also been put into place in many of these communities. Monitors from the community are trained and employed by the SFIU (EKZNW 2010a). The role of the monitors is to observe all subsistence resource use, report non-compliance, identify training needs, facilitate awareness, record and distribute committee meeting minutes, check attendance at fishing areas and maintain a timebook, as well as maintaining the subsistence zones (EKZNW 2010a). There are different monitors for each fishery, with the focus on monitoring fishing practices and fish. Intertidal monitors are required to supervise the subsistence zone during spring and low tides, as well as non-harvesting days. Line fish monitors, on the other hand, are required to be at the subsistence zone for the working day, which is agreed by the committee (EKZNW 2010a).

An evaluation of the co-management arrangements in KZN is currently underway in order to assess the effectiveness of the co-management arrangements and to adapt to challenges and new issues that are emerging (EKZNW 2010b).

4.1.2 Current Management Approach for Small-scale Fisheries in KZN

The current management approach (through co-management) is based on a permit system, in which (every year) fishers within the community apply for an intertidal or line fishing permit. The co-management committee and SFIU extension officers are responsible for coordinating the permit application process (EKZNW 2010a). The committee prepares a list of applicants, using a list of criteria, which includes such standards as: must be a South African citizen, must fish personally, use of low-technology gear, restricted to estuaries/seashore, must live in close proximity to the

marine resources, fishing has a long-standing cultural or traditional role, no other employment that yields adequate income, etc (EKZNW 2010a). Once the list is prepared it is passed to the SFIU extension officer, who in turn passes it to MCM headquarters in Cape Town. MCM issues the permits based on resource availability, which is determined by an annual stock survey (EKZNW 2010a). Permits are then issued to the co-management committee, who determine the management parameters of the area. These parameters include the number of individual permits issued and which individuals receive the permits, distributing the allocated quota, as well as the frequency and areas of harvesting within the subsistence zone (EKZNW 2010a).

As of 2010, there are more than 40 functioning co-management arrangements within the province, including the two case studies Mfazazana and Nonoti, investigated in this research project (Harris *et al.* 2007; EKZNW 2009a).

4.1.3 Case Study 1: Mfazazana, KZN

Mfazazana is a rural community situated approximately 100 kilometres south of Durban (near Port Shepstone) on the coast of the Indian Ocean (Figure 5 & Figure 8) It is a Zulu-speaking community that has 278 fishers, which consist of both line fishers and mussel harvesters (210 line fishers and 68 mussel harvesters) (EKZNW 2009b).



Figure 8. Looking out onto Mfazazana and the Indian Ocean (photo: N. Schell).

4.1.3.1 Socio-Economic Characteristics

Mfazazana falls under the Umzumbe municipality. Within this municipality there is a population of almost 200,000 people, with 38,280 households in an area of 1260 km². Of this population, 99.83% are black African, and 55% of the population is female (Umzumbe Municipality 2009). The population is very poor and has low levels of employment – meaning that most households have limited and irregular income and 72% of the population are unemployed (Umzumbe Municipality 2009). As a result, 78% of the population earns less than R9,600 a year. Furthermore, there are low levels of education and training – 32% of the population have had no schooling, whereas only 11% have completed high school or higher (Umzumbe Municipality 2009). The majority (60%) of the population live in traditional housing.

4.1.3.2 Marine Resource Use

One of the most common marine resources harvested in KZN is the mussel *perna perna* (brown mussel). However, in Mfazazana, there are both intertidal harvesters and line fishers – line fishers which catch a range of different species along the coast of KZN (EKZWN 2009a). A summary of the 2008/2009 fishing season in Mfazazana showed that the total mass of brown mussels harvested was 3061 kg from 208 bags (EKZWN 2009a). Although intertidal harvesters mainly harvest the brown mussel, the same summary showed that line fishers in Mfazazana caught 597 fish comprising 32 different species.

During the 2008/2009 season, 35 permits were issued for intertidal harvesting, however it is estimated that only 20 permits were used (EKZWN 2009a). This same season also saw 195 line fishing permits issued to fishers within Mfazazana, but it is estimated that only 73 of these permits were used (EKZWN 2009a).

The co-management arrangement (along with the LSCCs) in Mfazazana was established in 2002. Monthly meetings between community committee members and government representatives persist and co-management in this community continues to be functional.

4.1.4 Case Study 2: Nonoti, KZN, SA

Nonoti is a community situated approximately 75 kilometres north of Durban, near Stanger (Figure 5), and falls under the KwaDukuza municipality. It is a Zulu-speaking community that has 83 fishers, including line fishers and mussel harvesters (34 line fishers and 49 mussel harvesters) (EKZN Wildlife 2009b).

4.1.4.1 Socio-Economic Characteristics

The municipality of KwaDukuza has a population of approximately 158,580 permanent residents with a jurisdiction of approximately 633 km² (KwaDukuza Municipality 2007). The municipality has a diverse population (due to its settlement history) with approximately 71% black African, 23% Indian/Asian, and the remaining 6% white or coloured (KwaDukuza Municipality 2007). It is a very young population – 60% of the population is under 30 years of age.

Twenty percent of the population have had no schooling, while 54% have had some schooling and are considered literate (KwaDukuza Municipality 2007). Unemployment levels are high – 61% of the population in this municipality does not earn an income – indicating that this area has high levels of poverty (KwaDukuza Municipality 2007).

4.1.4.2 Marine Resource Use

The Nonoti community also consists of both line fishers and mussel harvesters. A summary of the 2008/2009 fishing season indicated that 2495 kg of mussels were harvested (from 177 bags) and 103 fish comprising 14 different species were caught by the line fishers (EKZWN 2009a).

During the 2008/2009 fishing season, 55 intertidal permits were issued (with an estimated 48 permits used) and 39 line fishing permits were also issued (with an estimated 26 used) (EKZWN 2009a).

The co-management arrangement (along with the LSCCs) in Nonoti was established in 2002. Monthly meetings between community committee members (Figure 9) and government representatives persist and co-management in this community continues to be functional.



Figure 9. Site for the monthly co-management meetings in Nonoti (Photo: N. Schell)

4.2 The Eastern and Western Cape Provinces, South Africa

The management approach to small-scale fisheries in the Eastern and Western Cape provinces differs from KZN. In these provinces, small-scale fisheries are managed at the national level, with MCM (now the Fisheries Branch) as the national authority. Research, law enforcement and management are co-ordinated from the MCM headquarters in Cape Town. Following the recommendations of the SFTG, the Subsistence Fisheries Management Unit (SFMU) (comprising of four staff members) was constituted by MCM as the national institution for subsistence fisheries management (Sowman 2006). The SFMU was chiefly responsible overall coordination of co-management activity in the provinces, as well as distributing application forms and issuing community permits. Furthermore, another section of MCM (Monitoring, Control and Surveillance) is responsible for enforcement of all fisheries (including small-scale fisheries). Although

most of MCM's officials are based in Cape Town, there are some branches based elsewhere (such as Port Elizabeth), which are primarily responsible for enforcement. There has also been some decentralisation of the SFMU to specific locations to facilitate co-management arrangements. In particular, extension officers have been placed in some areas to help distribute application forms and issue permits among the fishers. However, although this is the general institutional arrangement at national level, some small-scale fisheries in the provinces have had involvement and funding provided by organisations outside of government, which will be described in relation to the two case studies.

4.2.1 Swartkops, Eastern Cape

The Swartkops estuary is considered to be one of South Africa's most productive estuaries, particularly for bait collection (Zungu 2008). The Swartkops estuary is located in an urban and industrial area, 15 km north of Port Elizabeth on the south coast of the country (Figure 1). The estuary is bordered by a multitude of development, including some heavy industry, informal settlements, upper-middle class residential areas, a national highway, a railway and several stormwater outlet pipes (Hasler & Munro 2007).

4.2.1.1 Socio-Economic Characteristics

People living in the Swartkops area speak Xhosa, Afrikaans and/or English, however most of the subsistence fishers harvesting in the estuary speak Xhosa. The bait collectors are primarily from poor neighboring communities, who often harvest and sell the bait to recreational fishers within the city and other cities nearby. In particular, the informal settlements of the township Kwazakhele are the home for most of the bait collectors (Zungu 2008). A livelihoods assessment was conducted in 2005 amongst the bait collectors (Kariem 2005). This study indicated that there were high levels of poverty amidst the collectors – 70% of the bait collectors live in informal housing made of iron sheets and pieces of wood (Kariem 2005). Some houses have access to electricity, however most households continue to use candles, fire and paraffin as fuel alternatives (Kariem 2005). The bait collectors also have limited access to water and proper sanitation – approximately 65% of them use communal taps, while 30% have no toilets and another 35% use the bucket system as toilets (Kariem 2005).

Thirteen percent have no schooling, whereas 61% have completed some portion of primary school (grades 1 – 8). Furthermore, 30% of the bait collectors are illiterate (Kariem 2005). There is a limited skills level among the bait collectors, and as a result, 75% of the collectors are dependent on the income generated from selling bait (Kariem 2005).

4.2.1.2 Marine Resources and Current Management Arrangements

The Swartkops estuary consists of wide stretches of salt marsh, mud flats, and sand, which provides an excellent home for burrowing invertebrate species (Zungu 2008). The abundance of these invertebrate species creates an important nursery for fish nursery and bird feeding (Zungu 2008). In addition, these invertebrate species have been used as bait by local fishers. This bait includes mud and sand prawns (*Upogebia Africana* and *Collianassa kraussi*), pencil bait (*Solen capensis*), tapeworm (*Polybrachiorynchus dayi*), bloodworm (*Arenicola loveni*) and choral worm (*Marphysa* spp.) (Hasler & Munro 2007; Zungu 2008) (Figure 10). For decades these bait species have been harvested by recreational, subsistence and/or informal fishers (Zungu 2008). During apartheid, bait collection for resale in the estuary was illegal – only recreational permits allowed bait collection (Hasler & Munro 2007). However, following the promulgation of the MLRA (1998), a new permit system was been put in place to formally recognise subsistence bait collectors. The current management approach was implemented in 2002 and includes ‘exemption certificates’ (permits), which MCM allocates to a certain number of ‘exemption holders’ (small-scale bait collectors) every year (Hasler & Munro 2007; Zungu 2008). Each bait collector must abide by certain conditions of the exemption certificates, which include limits on size of animal harvested, gear, effort and membership (Hasler & Munro 2007). These conditions are reviewed annually, and likewise the exemption holders are also reviewed annually. MCM has the authority to add or remove exemption holders based on their review (Hasler & Munro 2007). MCM also has a compliance branch that is responsible for law enforcement of the activities related to the estuary’s marine resources. Their primary responsibility is to ensure that harvesting is legal – that fishers have permits and are adhering to the permit conditions (Hasler & Munro 2007).

In 2006, 47 exemption certificates were issued, but only 35 were collected (Hasler & Munro 2007). However, it is estimated that approximately 70 – 120 bait collectors (both legal and illegal) utilise the estuary on a yearly basis (Hasler & Munro 2007).



Figure 10. The different types of bait sold at the bait shops in Swartkops – bloodworm, pencil bait and sand prawns can be seen in these pictures (Photo: N. Schell).

4.2.1.3 The Evolution of the Co-management Arrangement

Prior to the MLRA, many of the bait collectors were repeatedly arrested and fined without explanation due to their lack of fishing permits. Furthermore, many upper-middle class residents were concerned about the conservation of the estuary. In particular, the Swartkops Trust (which was established in 1968) has had a history of involvement with the authorities concerning bait-collecting activities, and frequently complained about the bait collectors primarily over environmental issues (Hasler & Munro 2007). After the implementation of the MLRA in 1998, MCM sought to establish an alternative management approach in Swartkops, especially since there had been a history of conflict between the adjacent residents and the bait collectors. In December of 2002, the Swartkops Estuary Subsistence Fishery was launched; in which identified bait collectors were able to collect legally while adhering to the permit conditions (Hasler & Munro 2007).

4.2.1.3.1 Planning and Development of Co-management

Previously, in 2001, the Port Elizabeth MCM extension officers had established a Bait Fisher LCC. This committee comprised of subsistence fishers from Swartkops who were elected by their fellow fishers. This committee was created to represent the fishers, and to organise the legal fishers (Hasler & Munro 2007). Furthermore, the extension officers had also established a community-based monitoring system (Catch Monitors), for the purpose of providing information on the resources harvested. This system was initiated and funded by MCM and started obtaining catch data in December 2005 (Hasler & Munro 2007). However, due to various challenges, outside facilitation was requested.

In early 2003, a few months after the Swartkops Estuary Subsistence Fishery was launched, there was increasing concern that the fishers and other stakeholders did not have enough involvement in the management of the fishery. Furthermore, there had been increasing conflict between the compliance staff and the subsistence fishers and there were communication problems among the various stakeholders. As a result, Swartkops was chosen as one of the co-management pilot studies funded by the Norwegian-South African partnership programme (NORSA) (Zungu 2008). The Environmental Evaluation Unit (EEU) at the University of Cape Town was identified as the service provider responsible for facilitating the development of a co-management arrangement at Swartkops (Zungu 2008). The EEU met with MCM to discuss the co-management arrangement at Swartkops and in August 2003, MCM agreed to support the project (Zungu 2008).

After receiving consent of support from MCM, members of the EEU and the SFMU travelled to Swartkops. The purpose of this trip was to identify and meet with the key stakeholders and also identify the primary issues facing the fishery. The process began with the identification of the key stakeholder groups, which included government (MCM – including the extension officers and the compliance staff), bait collectors (legal and illegal) and other interested stakeholder groups (the Nelson Mandela Metropolitan Municipality [Environmental Management], the South African Police Services [SAPS], Swartkops Trust, the Amsterdamhoek Ratepayers Association [ARA], Sustainable Coastal Development and the Department of Development Studies at the Nelson Mandela Metropolitan University [NMMU]) (Hasler & Munro 2007) (Figure 11).

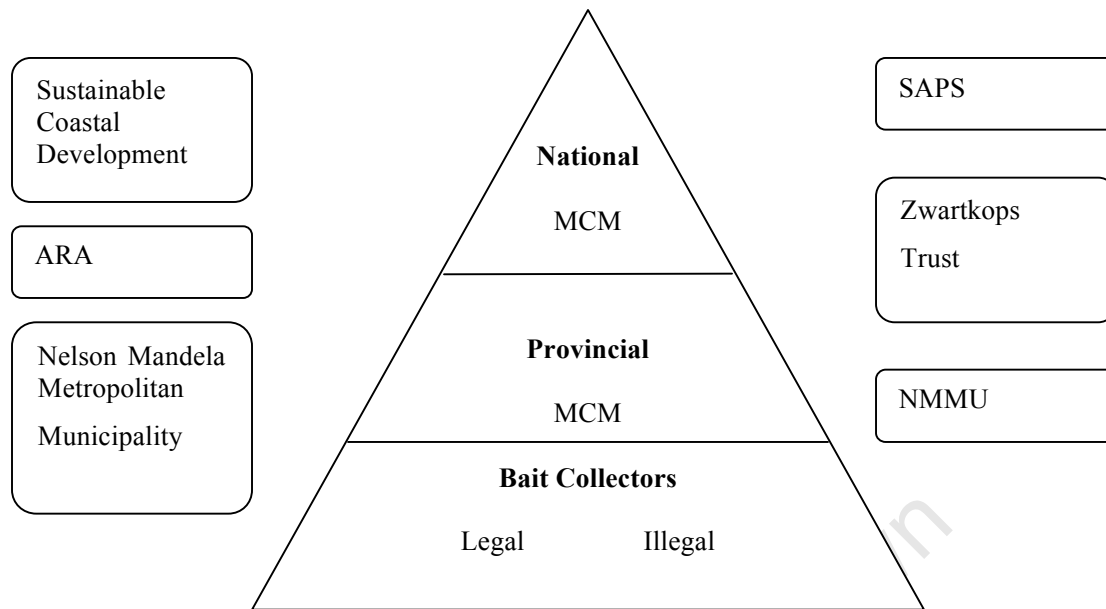


Figure 11. Stakeholders involved in the co-management arrangement in Swartkops

MCM officials involved in the Swartkops co-management project are based both in the provincial offices of Port Elizabeth and the head offices in Cape Town. The Port Elizabeth branch is responsible primarily for compliance, but also for liaison with the local fishers (through the involvement of one subsistence fisheries extension officer). The Cape Town office is responsible for issuing the exemption permits. There was also a private consultancy (Sustainable Coastal Development cc.) appointed as consultants and employed by MCM in 2005, to act as an extension officer and facilitate the LCC prior to such a position being institutionalised within MCM (Zungu 2008).

4.2.1.3.2 Implementation of Co-management

In 2003, the EEU facilitated the establishment and regular meeting of the Swartkops Co-management Forum, which consisted of various stakeholders that would meet every 6-8 weeks. This forum involved most of the stakeholders previously mentioned, excluding Zwartkops Trust, the ARA and the illegal bait collectors (Hasler & Munro 2007). The absence of these other stakeholders presented weakness, however some of these groups were included later. This forum provided a platform for discussion and debate among the stakeholders, and also allowed for the relationship among the stakeholders to be

strengthened. The EEU, with help from Sustainable Coastal Development and the SFMU, created programmes such as the Swartkops Co-management Awareness Raising and Capacity Building Programme (Kariem 2005). These programs focused on developing and implementing capacity development workshops with the stakeholders in order to increase their skill levels, but focused primarily on the LCC and Catch Monitors. This capacity building focused on topics such as sustainable management of the resources and co-management processes. Another intention of this skills capacitation was that the EEU could be phased out of the co-management arrangement within three years (Hasler & Munro 2007).

4.2.1.3.3 Monitoring and Evaluation of Co-management

In 2007, the EEU conducted an evaluation of the co-management arrangement at Swartkops. At this stage, co-management was MCM-driven, and although the project had helped improve the relationship between the compliance staff and the subsistence fishers, many challenges remained. The major challenge was that the monitoring system that had previously been put into place no longer existed, and as a result there was very little information on the status of the multiple bait resources (Hasler & Munro 2007). Since none of the stakeholders knew for certain about the impact of bait digging or the use of different tools on the resource, the government had taken a precautionary approach to co-management, which led to strict enforcement of permit conditions and less commitment to involving the bait collectors in the co-management process (Hasler & Munro 2007; EEU 2008). As a result, decisions were largely being taken in Cape Town (and out of local context), which increasingly frustrated the stakeholders involved in co-management (EEU 2008). Unfortunately, when funding for the project expired and the EEU were no longer involved in facilitating regular meetings, MCM did not commit to the co-management process. Subsequently, the co-management structure at Swartkops has collapsed.

4.2.2 Ebenhaeser, Western Cape

Ebenhaeser is located on the west coast of the Western Cape Province (Figure 1), approximately 350 kilometers north of the city of Cape Town and is located about 15

kilometres upstream from the mouth of the Olifants River (Figure 12) (Sowman 2003; Carvalho *et al.* 2009).



Figure 12. Fishing on the Olifants River in Ebenhaeser (Photo: N. Schell)

4.2.2.1 Socio-Economic Characteristics

Ebenhaeser is largely an Afrikaans-speaking, rural community that consists of approximately 150 families that are involved in fishing in the estuary (Sowman 2009). The original inhabitants of Ebenhaeser were evicted from their agricultural land in 1925 and relocated to the lower reaches of the Olifants River (Sowman 2009). Since then the people of the community have been battling with drought and poverty. A fishing family will typically earn an average income of R378 – R580 per month (Carvalho *et al.* 2009). Fishing became the primary source for people's livelihoods and this has provided for the community for the past few generations. Over a hundred households in the community are largely dependent on fishing, however some will also seek alternative employment in the area such as grape picking, road maintenance, or other ad hoc activities in order to maintain their livelihoods (Sowman 2009).

Religiously and ethnically there is a high degree of homogeneity amongst the people of Ebenhaeser – most are of mixed descent (Carvalho *et al.* 2009). However, the people have been divided due to different political ideologies (Sowman 2003). Education levels in the area are relatively low – 12% of the population has had no schooling and 42% have completed some portion of primary school (Barbour 2007).

4.2.2.2 Marine Resources and Current Management Arrangements

The Olifants river is one of only three permanently opened estuaries on the west coast of the country, and typically has very strong tidal and salinity fluctuations (Carvalho *et al.* 2009). The primary resource used by the fishers living in the communities along the Olifants River is the southern mullet (*Liza richardsonii*), also known as ‘harders’, which are endemic to South Africa (Sowman 2003). Adult harders breed in the sea, whereas juveniles use the Olifants River as nursery grounds. However, although the juveniles do use the estuarine nursery grounds, they are not dependent on the areas (Sowman 2009).

Currently there are 45 fishers from Ebenhaeser and surrounding communities (Nuwepos, Rooierwe, Olifantsdrift, Papendorp and Viswater) that have permits to fish for harders. Each permit holder is also allowed one crewmember, so there are 90 individuals that can legally harvest fish (Carvalho *et al.* 2009). Most licensed fishers own a small wooden rowing boat and a 45m gillnet (although previously they were allowed to use a 60 m gillnet), with mesh sizes ranging from 48 – 54 mm (Sowman 2003; Carvalho *et al.* 2009). The main area for harder fishing is in the lower 15 km of the estuary, however the river mouth is closed to fishing (Carvalho *et al.* 2009). Although the catches are used mainly for subsistence purposes, fishers do sell their catch to local farmers. Furthermore, excess catch is salted and dried in order to provide food during the winter months (Sowman 2009).

More recently, through the interim relief exemption permit process, some fishers in Ebenhaeser have gained access to the sea. This is due to an Equality Court order that ruled that government had to provide access to coastal resources for traditional fishers

that had been overlooked in the rights allocation process while a small-scale fisheries policy was being developed (Sowman 2009). Thus, there are currently two types of permits that allow fishers to fish: (1) in the estuary or (2) in the sea. These additional fishers that fish in the sea at Doringbaai have decided to be part of the fishing committee based in Ebenhaeser. The Ebenhaeser community has subsequently named the two types of fishers as 'Fishers of the River' and 'Fishers of the Sea'. While the Fishers of the River continue to fish for harders, the Fishers of the Sea catch rock lobster, which has a much higher monetary value. As a result, there is much tension and division between the Fishers of the River and Fishers of the Sea due to the difference in monetary value of the two marine resources. Currently there are 45 Exemption permits for the Fishers of the River and 15 Interim Relief permits for the Fishers of the Sea.

4.2.2.3 Evolution of the Co-management Arrangement

In 1993, the fishers of Ebenhaeser contacted the EEU at UCT to investigate reasons for the decrease in fish catches (Environmental Advisory Unit 1993). Although there was no reliable quantitative statement about the resource status, the community held a strong belief that the reason for the decline was because of the presence of diamond recovery vessels in the estuary (Sowman 2003). This strong opinion also stemmed from the fact that the community had been very dissatisfied with the lack of consultation from the government in terms of managing the fishery. The following year, the fishers of Ebenhaeser then asked the EEU team to organise a workshop with all the relevant stakeholders – which included the Ebenhaeser community, the diamond mining company, and government departments (which at the time was the provincial authority Cape Nature Conservation [CNC]) (Sowman 2003; Sowman 2009). This workshop allowed stakeholders to voice their concerns about problems facing the fishery. Based on the outcomes of the workshop, it was agreed that the EEU together with the Environmental Unit at the Peninsula Technikon would facilitate the development of a co-management arrangement in Ebenhaeser. After consultation with the community and CNC, as well as the submission of a research proposal, the co-management project received funding and the project began in 1994 (Sowman 2003).

4.2.2.3.1 Planning and Development of Co-management

The initial stakeholders involved in the development of the co-management arrangement in Ebenhaeser were the local fishers, CNC and the EEU. One of the first activities in the development stage was to elect a fisher committee. From 1995 – 1997 a series of workshops (facilitated by the EEU) were held with the committee, the community and CNC to build an understanding of co-management principles and practices, as well as to jointly develop a partnership agreement (Sowman 2003; Sowman 2009). By the end of 1997, a draft agreement had been prepared, which outlined the roles and responsibilities of the stakeholders with respect to the management of the fishery (Sowman 2003; Sowman 2009).

4.2.2.3.2 Implementation of Co-management

The co-management arrangement was initially implemented using the proposals set out in the draft agreement. The fishing committee and CNC would meet on a regular basis to discuss management issues and resolve any problems. However, this developing co-management arrangement was short-lived as South Africa was undergoing a crucial law reform process, which had implications for the management of marine resources (Sowman 2009). Specifically during this reform process, the responsibility for estuarine resource management changed from a provincial responsibility to a national responsibility – and the Chief Directorate MCM, within DEAT, became the responsible authority (Sowman 2009). These institutional changes created much confusion on the ground – there was neither a clear policy nor a clear government partner – which led to collapse of the co-management arrangement in 1999 (Sowman 2009).

Once MCM had taken over responsibility for estuarine management, they initially sought to reduce the fishing activities in the Olifants River. However, the well-established fishing committee was able to show evidence of the community's dependence on the resource, and thus MCM was required to take account of these socio-economic needs in granting access rights and considering management arrangements with the fishers (Sowman 2009). This led to the allocation of 45-permits which allowed 90 fishers to fish for harders in the estuary. This exemption permit system is still in place. In addition, the Norwegian-South African partnership program also allocated funds towards redeveloping

a co-management arrangement for the Olifants harder fishery in Ebenhaeser – and so meetings once again commenced between the fishing committee and the new governing agency MCM, with the EEU continuing as a facilitator (Sowman 2009).

However, although MCM and the fishers (with support from the EEU team) agreed to engage in co-management discussions, the two parties articulated very different objectives during the negotiations. MCM favoured a precautionary conservation approach whereas the fishers and EEU requested that a balance between conservation and livelihood objectives be found (Sowman 2009). This has led to MCM claiming to be involved with the co-management process, however, their actions have suggested otherwise. Decisions concerning management practices and rules continue to be taken without prior consultation with the fishers – and as a result ‘co-management’ has broken down (Sowman 2009).

4.2.2.3.3 Monitoring and Evaluation

A monitoring system was initially implemented through the EEU during the early years of the development of the co-management arrangement in Ebenhaeser (1994 – 1996) (Sowman 2003). This system allowed the community and the EEU to gain information on catch rates, fish size and annual catches – and enabled an initial assessment to determine if fishing practices were sustainable. There were also socio-economic surveys conducted to clarify social and economic aspects of the fishery, however collection of this information was not implemented as part of the formal monitoring system (Sowman 2009). Due to funding constraints the monitoring system was not implemented continuously but from 2004 information on the status of the resource and bycatch have been collected by local monitors and analysed by fisheries scientists working with the EEU research team (Sowman 2009).

Overall results from the monitoring system suggest that there has been no significant reduction in the resource, and a trivial amount of bycatch (Sowman 2009). However, MCM has continued to question the accuracy of the data collected from the community-

based monitoring system, and instead has chosen to base decisions on older data collected from MCM scientists – data that suggest overexploitation (Sowman 2009). As a result, in 2007, MCM endorsed the draft Olifants Estuary Management Plan – a plan that identifies the Olifants as a biodiversity conservation priority, and recommends that a large section of the river be declared a no-take Marine Protected Area – an area where the fishers have traditionally fished (Sowman 2009; Anchor Environmental Consulting 2009). The process of developing this management plan has been inadequate in terms of consultation with the fishers of Ebenhaeser and this has further alienated the fishers from the fisheries authority (Sowman 2009).

Presently, a top-down management approach continues to be implemented at Ebenhaeser – with MCM taking most decisions without consultation with the fishers. As a result, there is no co-management activity in Ebenhaeser.

4.3 Conclusion

This study will compare the perceptions of the users and government officials towards the different management approaches adopted in KZN and the other provinces. Each case study chosen for this research project is unique – both in terms of its location, ecosystem and socio-economic characteristics and the history and attributes of the co-management arrangements in place. In particular, this chapter has shown that there are very different institutional arrangements between KZN and the EC/WC, and the approaches to co-management differ significantly.

In KZN, the implementation and management of small-scale fisheries has been devolved to the provincial authority EKZNW, which in turn created a province-wide policy approach to co-management, which led to similar processes unfolding in both case study sites (Mfazazana and Nonoti). Stakeholder involvement in the co-management arrangements in KZN remain solely between the fishers and officials of EKZNW and the SFIU. These arrangements also continue to function to date.

Conversely, in the EC/WC, the national authority MCM is responsible for subsistence and small-scale fisheries and promoting co-management arrangements within these two provinces. However, there is no overarching policy which guides the implementation of co-management in small-scale fishing communities within these provinces. Instead, both Ebenhaeser and Swartkops co-management arrangements were largely established in an ad hoc fashion, funded by outside sources and involving external facilitators. There were also a wide diversity of stakeholder groups involved in the process. Once funding ceased and outside sources pulled out of the projects, MCM did not commit to the process of co-management. As a result, the co-management arrangements at both case studies have collapsed.

Thus, the different institutional arrangements set up for small-scale fisheries management in the different provinces have led to very different outcomes. This research aims to identify the perceptions of stakeholders towards co-management, and whether or not perceptions are shared between stakeholder groups. Furthermore, this study will compare perceptions between the regions, in order to assess whether different institutional approaches influence perceptions of co-management participants.

5. Findings

This study reports on the findings from 40 interviews conducted amongst a range of co-management stakeholders in four case studies across South Africa. The purpose of these interviews was to gain an understanding of the various perceptions of stakeholders towards co-management theory and practice, and ascertain the extent to which these perceptions differed within and across stakeholder groups and study sites.

The two primary stakeholder groups that were interviewed in this study were ‘fishers’ and ‘government officials’. However, in the case studies in Ebenhaeser and Swartkops ‘other stakeholders’ that had an interest or involvement with the co-management process were also interviewed. These other stakeholders represent members from the Nelson Mandela municipality, the environmental organisation Swartkops Trust, researchers from the EEU, and representatives of the NGO, Masifundise (refer to Table 1 in the Methodology Chapter). It is also important to consider that the various ‘other stakeholders’ interviewed have very different backgrounds and widely different viewpoints, and therefore should not be considered as a homogenous group. In the case of KZN, there were no other external stakeholders involved in the co-management arrangements, and therefore no other stakeholders were interviewed in this province. The focus of this research project is primarily on ascertaining the views and perceptions of fishers and government officials. However where findings are pertinent, the responses from the other stakeholders will be included.

5.1 Understanding the Term Co-management

This section of the Findings Chapter focuses on the respondents’ perceptions of what the term co-management means.

5.1.1 General understanding of the term co-management

At the beginning of each interview, the interviewee was asked to describe their understanding of the term co-management, and words that they associate with the term. Interestingly, the results suggested that the different stakeholders have a similar

understanding of the term co-management. For the majority of the interviewees, whether fishers, government officials or other key stakeholders, co-management means “a partnership among stakeholders”. In particular, 88% (35 of 40) of interviewees used the word partnership to describe co-management. The specific words “working together” were used by 71% (15 of 21) of fishers and by 54% (7 of 13) of government officials to describe co-management. This term “working together” was mentioned throughout several interviews and was used in response to many different questions. All stakeholders used this term to describe a partnership arrangement between the fishing community and the government (and in some cases other stakeholders who are also involved). “Working together” was also included good communication between stakeholders. Many interviewees recognised that there would be differences of opinion regarding the nature of the management structure for a particular context, but agreed that a co-management arrangement provides the opportunity for these ideas to be shared and discussed. Finally, fishers and government officials described “working together” as not only ongoing communication and sharing ideas, but also a process that allows the different parties to come to an agreement together.

5.1.2 Fishers’ understanding of co-management

Although most fishers were brief in their explanation of co-management, they commonly described co-management as a partnership with government to manage marine resources. Communication was considered to be a key aspect of co-management. Partnerships and communication were explained as including the exchange of information between stakeholders and education of the community (MF3). Those fishers using the words “working together” often followed with an explanation of what they meant by “working together”. For example, one fisher described co-management as ‘*working together since we have different opinions and we need to combine them*’ (NF4), while another fisher described it as ‘*sitting together and discussing our issues, doing it collectively*’ (EF4). These fishers recognised the need to consider different ideas and opinions. Others mentioned decision-making, and referred to co-management as a system ‘*when ideas are shared and we come to a decision together*’ (NF2) and ‘*certain people are part of a*

committee and manage together – no decision can be taken in the absence of another’ (SF1).

The 33% of fishers who did not use the terms “working together” or “communication” when describing co-management, described co-management as *‘looking after the sea’* (MF5), *‘economic development’* (MF7), *‘to help those who work in the sea understand what is right and wrong, and to communicate with the community about how to sustain resources’* (MF4), *‘to get our livelihood from the river’* (EF5), *‘benefits for the fishers and the government’* (EF2), *‘to solve our problems’* (SF2) and *‘equality’* (SF3). Many of these descriptions involved the ideas of sustainable management, improving the lives of fishers, and promoting involvement of stakeholders in fisheries management.

Overall, the fishers’ understanding of co-management recognised the need to work with the government to manage a fishery. As one fisher stated: *‘[co-management], if done rightly it is a good thing. The government and fishers come together and walk the path together to move forward’* (EF1).

5.1.3 Government officials’ understanding of co-management

When describing their understanding of co-management, government officials also used terms such as “working together”, “sharing ideas” and “communication” with fishers and the respective communities to manage a resource. Government officials generally gave a more detailed description of their understanding of co-management and also spoke of the importance of sharing different ideas. For example, one official explained: *‘Two different parties with different ideas – we need to combine those ideas and discuss them. Then come to an agreement that is favourable to both parties’* (KZN4), while another spoke about respecting and accepting different ideas: *‘we need to accept the legitimacy of others’ points of view and take them seriously’* (MCM4). Interestingly, although many government officials spoke of managing a resource, only one government official used the term “sustainable management” when describing co-management: *‘the compliance staff working together with the community to create sustainable management’* (KZN8),

and even in this description, much of the focus is on the partnership between the community and the government.

Overall, when describing the term co-management, most government officials spoke of different stakeholders coming together, achieving open and ongoing communication, sharing ideas, and agreeing on responsibilities for managing resources. All government officials recognised the importance of involving other stakeholders in the management process, and that this should not be a government-only responsibility.

5.1.4 Other stakeholders' understanding of co-management

Similar to fishers' and government officials' understandings of co-management, other stakeholders involved in both the Swartkops and Ebenhaeser co-management arrangements described the term as a partnership between different parties to manage a resource. Again, the words "working together" were mentioned in these interviews to describe co-management: *'different stakeholders working together to manage an area'* (SS3), as well as equality: *'all the stakeholders having equal input into the management of the estuary'* (SS2). In addition, another stakeholder involved in co-management in Swartkops expressed the importance of shared responsibility; *'Bringing together a group of people who have similar interests – and to give inputs into the management of the resource'* (SS4). Other stakeholders emphasised the importance of participation and equality – *'joint and equal participatory decision-making between different stakeholders'* (ES2). Overall, and interestingly, the other stakeholders interviewed, which included municipality officials, facilitators and members of environmental organisations, focused on the partnerships amongst different stakeholders when describing co-management, which mirrors the responses of fishers' and government officials' understanding of co-management.

5.2 Perceptions of the Objectives and Benefits of Co-management

This section further examines respondents' understanding of the concept of co-management by focusing on their perceptions of what the objectives and benefits are.

of co-management should be. This section thus provides insight into the respondents' perceptions of how co-management *should* be implemented.

5.2.1 Perceptions of Co-management Objectives

Having ascertained stakeholders' general understanding of the concept of co-management, the objectives and the desired outcomes or benefits of a co-management arrangement were also explored with each respondent.

5.2.1.1 Fishers' perceptions of objectives

In each case study, the majority of fishers believed that a primary objective of co-management *should be* to “work together” with the government (Figure 13), which was described as improving relationships and increasing communication between the two stakeholder groups, as well as involving fishers in the management and decision-making process. Approximately 20% (4 of 21) of fishers also mentioned the importance of “securing their rights”, in particular gaining access to marine resources and obtaining permits from the government. Another interesting finding was that fishers in KZN (from both Mfazazana and Nonoti) perceived “sustainable management” to be an objective of co-management. In particular, one fisher from Nonoti described the objective of co-management as follows: *‘to provide safety of the marine resources on our coast’* (NF2). However, there were no fishers in either Ebenhaeser or Swartkops that mentioned “sustainable management” as an objective.

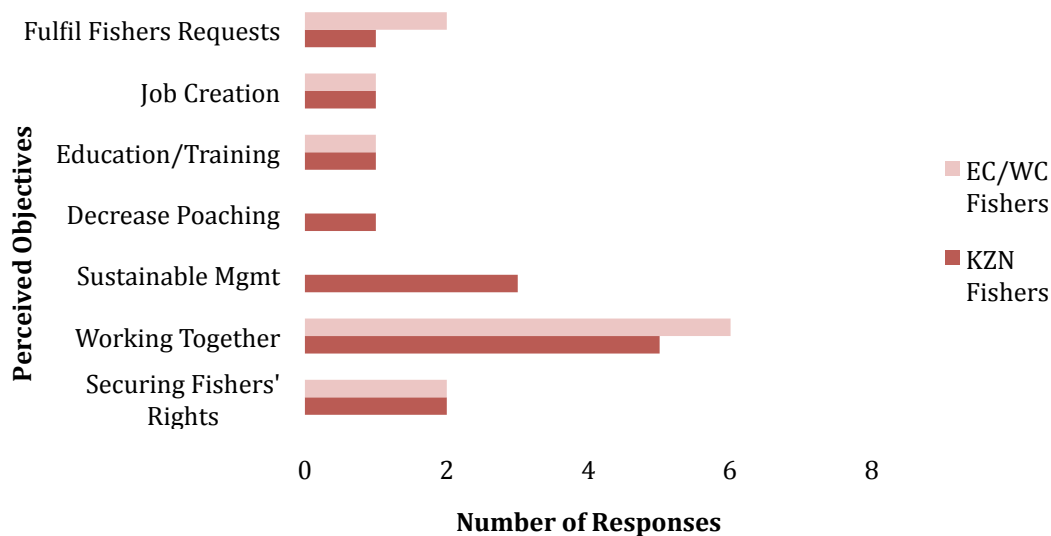


Figure 13 – Fishers’ (KZN and EC/WC fishers) perceptions of co-management objectives

5.2.1.2 Government officials’ perceptions of objectives

“Sustainable management” was the most common response given by both KZN and MCM government officials when asked what they consider the objectives of co-management should be (Figure 14). Likewise, government officials from both the provincial and national level believed that “securing fishers’ rights” should be a primary objective of co-management. There was also mention that government officials have a mandate and as such they need to implement co-management objectives in a particular way: *‘we need to look at the goals of the department and bring ideas in line with that mandate’* (MCM2). Both MCM and KZN government officials identified “education, training and empowerment” of fishers and the community as important objectives of co-management, as this was in line with the sustainable management objective: *‘we need to minimise the use of the resource and create sustainable management, have the community learn about sustainable management, and create a sense of ownership within the community’* (KZN5). Interestingly, more KZN government officials mentioned the importance of improving relationships or “working together” with the community as a key objective of co-management, as opposed to the MCM officials. Some KZN officials described the need for *‘improved relations between the stakeholders’* (KZN2), to *‘create a positive relationship’* (KZN5), as well as *‘sitting together to solve problems together’*

(KZN6). Conversely, only one MCM government official mentioned this as an objective but highlighted the need to give more decision-making power to the community (MCM1).

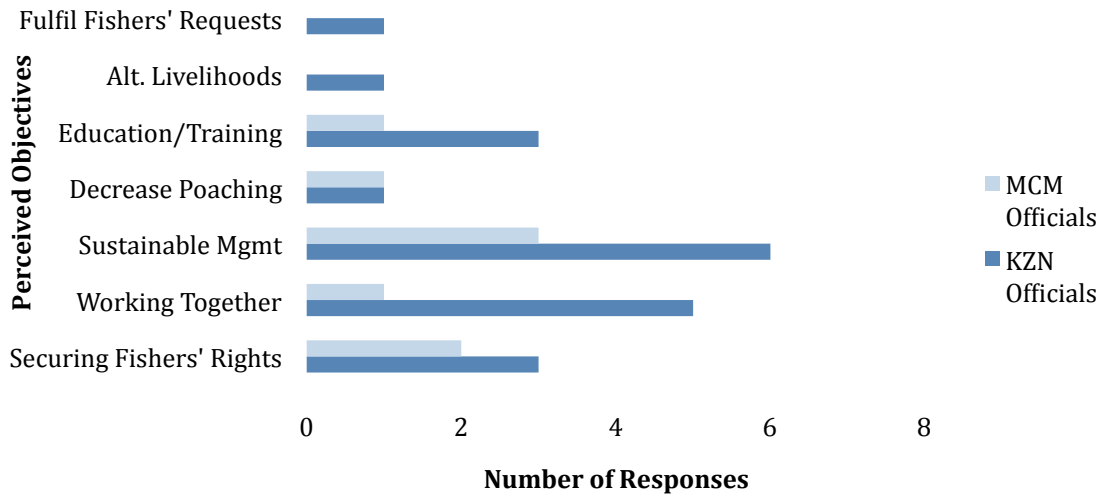


Figure 14 – Government officials’ (KZN and MCM) perceptions of co-management objectives

5.2.1.3 Other stakeholders’ perceptions of objectives

All ‘other stakeholders’ from Swartkops that were interviewed mentioned “sustainable management” of the estuary as a key objective of co-management. They believed that it was also important to consider users and stakeholders’ relationship to the estuary, and therefore it was also important to consider people’s opinions. Another stakeholder believed that it was important to *‘have a harmonious relationship between the role players and make sure there is no big brother in the relationship’* (SS4). Similar to this last remark, the ‘others stakeholders’ in Ebenhaeser also focused on the human dynamics of co-management – believing that the most important objective of co-management should be to *‘strengthen the relationship between the resource users and resource managers’* (ES1), as well as *‘to ensure equal, fair and effective participation of the stakeholders in governance of fisheries’* (ES2).

5.2.1.4 Perceptions of objectives – KZN versus the EC/WC

Figures 15 and 16 compare the perceptions of fishers and government officials within KZN and the EC/WC with respect to their objectives of co-management. Figure 15, which depicts the KZN fishers and government officials' perceptions of objectives, shows much more consistency between the perceptions of these two stakeholder groups. Both stakeholder groups in KZN believe that “working together” should be a primary objective of the co-management arrangement. Similarly, both groups recognised that “securing fishers’ rights” and “sustainable management” should be important objectives of co-management.

Figure 16, on the other hand, compares perceptions of fishers and MCM officials involved in the co-management arrangements at Ebenhaeser and Swartkops in relation to their stated objectives. Fishers from both communities place an emphasis on “working together” as an objective of co-management, whereas only one MCM official considered this to be an important objective. Instead, MCM officials stressed the importance of “sustainable management”, and no fisher made mention of this. Looking at Figure 4, it is clear that there are few commonalities between the perceptions of the Ebenhaeser and Swartkops fishers and MCM government officials in terms of their theoretical understanding of co-management objectives.

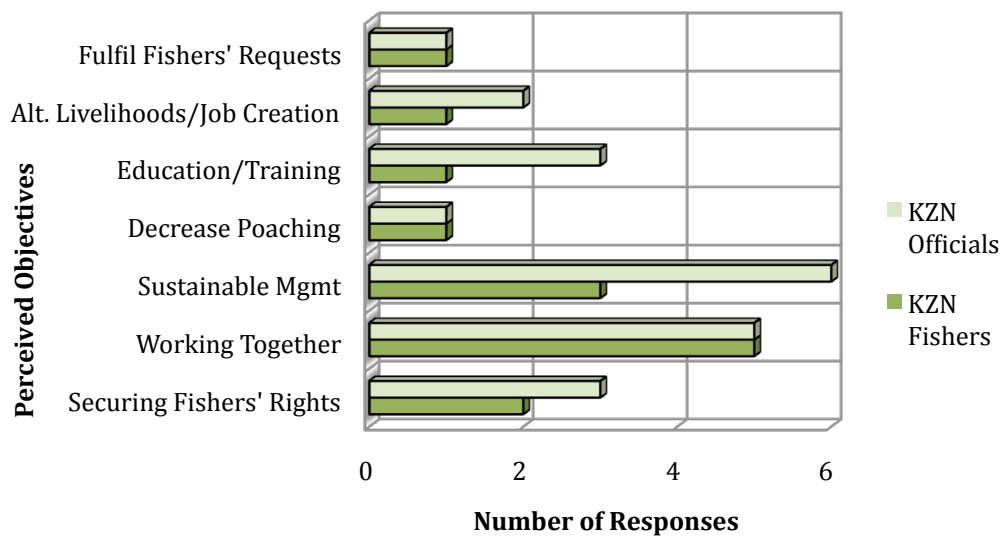


Figure 15 – Perceptions of KZN stakeholders (fishers and government officials) with respect to co-management objectives

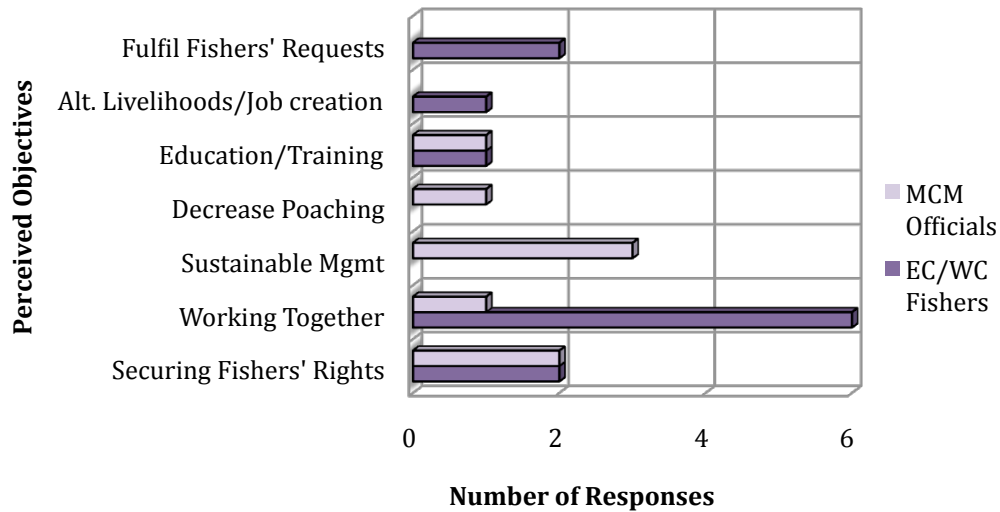


Figure 16 – Perceptions of EC/WC stakeholders (fishers and government officials) with respect to co-management objectives

5.2.2 Perceptions of Benefits that should flow from Co-management

Similar to questioning the stakeholders about co-management objectives, each interviewee was also asked “who”, or which stakeholder group, they believed should benefit from a co-management arrangement, as well as “how” they should benefit.

5.2.2.1 Who should benefit from co-management?

There were strong similarities in the responses in terms of the respondents’ understanding of who should benefit from co-management. Eighty percent of all respondents (32 of 40) stated that a “combination of stakeholders” should benefit from co-management. This “combination of stakeholders” was mainly described as fishers and government officials, although there were some small variations from this common perception, and some stakeholders also included ‘*future generations*’ (NF2), ‘*all South Africans*’ (MF2) and the estuary and/or marine resources. Furthermore, there were eight fishers who believed that only the community should benefit from co-management.

5.2.2.2 Fishers’ perceptions of benefits

Fishers gave a variety of responses when asked what type of benefits they believed should flow from a co-management arrangement (Figure 17), especially fishers from

KZN. Key benefits identified by fishers from KZN included acquiring “knowledge and training”, “securing fishers’ rights”, an “improved relationship with the government” – including involvement in the management process, an improvement in the “status of marine resources” and “food”, “better access to fishing equipment”, and finally that community “requests are fulfilled”. Fishers from the EC/WC, focused on a smaller range of benefits, but had similar responses to fishers in KZN – such as “training”, “securing fishers’ rights” and “greater involvement in management”. Many fishers from both KZN and the EC/WC also believed there should be some “monetary benefit and/or job creation” from involvement in a co-management arrangement. In addition, fishers from the EC/WC, primarily from Ebenhaeser, strongly believed that a benefit for the community should be an “improved relationship” with the government in terms of managing the resource, meaning that fishers should have greater involvement and participation in management and decision-making.



Figure 17 – Fishers’ (KZN and EC/WC fishers’) perceptions of benefits that should result from co-management

Fishers had less to say about how government should benefit from co-management. KZN fishers believed that the biggest benefit for government should be an improvement in the “status of marine resources”, whereas not many fishers from the EC/WC gave details on how government officials should benefit from co-management.

5.2.2.3 Government officials' perceptions of benefits

KZN and MCM officials gave similar responses on how the community should benefit from co-management, but their primary focus differed from the fishers (Figure 18). Many KZN officials believed that fishers ought to benefit from an increase in “knowledge and training”, “securing of fishers’ rights”, as well as “involvement in the co-management process” and an “improved relationship with the government”. MCM officials also mentioned these fisher benefits, but focused primarily on improvements in the “health of marine resources” as the primary benefit for fishers. Only one official from KZN mentioned “health of resources” as a benefit for fishers. Interestingly, 63% (5 of 8) of officials from KZN believe that fishers should receive some sort of “monetary benefit and/or job creation” from co-management, whereas no MCM official mentioned this as a benefit.

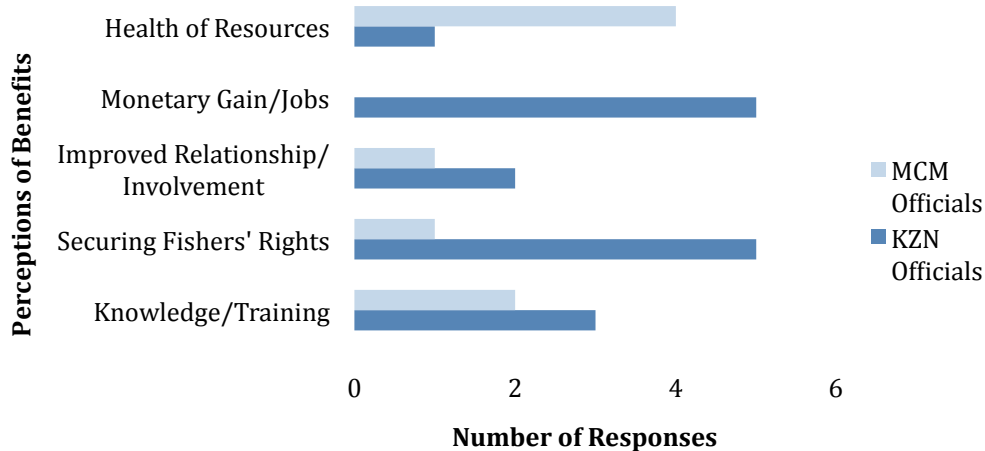


Figure 18 – Government officials (MCM and KZN officials’) perceptions of benefits that should accrue to fishers from co-management

In terms of benefits for government, most government officials considered that the primary benefit should be “improved health of the marine resources” due to sustainable management. Other benefits mentioned by both MCM and KZN included helping the community by “securing fishers’ rights” and creating greater “food security”, as well as “decreasing the burden on government through devolution of power”. There were also a few government officials from KZN who believed that the government should also benefit from a “decrease in poaching”, and an “improved relationship” with the respective fishing communities.

5.2.2.4 Perceptions of benefits – KZN versus the EC/WC

A comparison of perceptions with respect to benefits was undertaken between fishers (from KZN and EC/WC) and government officials (KZN and MCM). Overall, the fishers in KZN anticipate a greater variety of benefits from co-management than their EC/WC counterparts. Interestingly, there were a number of fishers and government officials from KZN that believe the community should receive some “monetary benefits and/or jobs” from co-management. KZN government officials also strongly believe that one of the primary benefits for the community is the recognition or realisation of “fishers’ rights” (access to resources), whereas only two fishers mentioned this as a benefit. However, each perceived benefit is mentioned by both the government official group and the fisher group (Figure 19).

Figure 20 shows a comparison of perceptions of fishers from the EC/WC and the MCM government officials with respect to benefits. There are some similarities in that both government officials and the fishers believe that gaining “knowledge and training”, as well as “securing fishers’ rights” should be amongst the benefits that the community receives from a co-management arrangement. However, there were some important inconsistencies between the fishers’ and MCM’s perceptions of what benefits should flow to the community. For example, 33% (3 of 9) of the EC/WC fishers stated that “involvement in management” should be one of the greatest benefits, whereas only one MCM government official mentioned this issue. Similarly, 33% of fishers believed there should be some “monetary benefits” for the community, and not one MCM government official made any reference to this issue. Finally, the most common response from the MCM officials in terms of community benefits relates to an “improvement in the status of resources”, whereas no fishers regarded this as a benefit for the community.

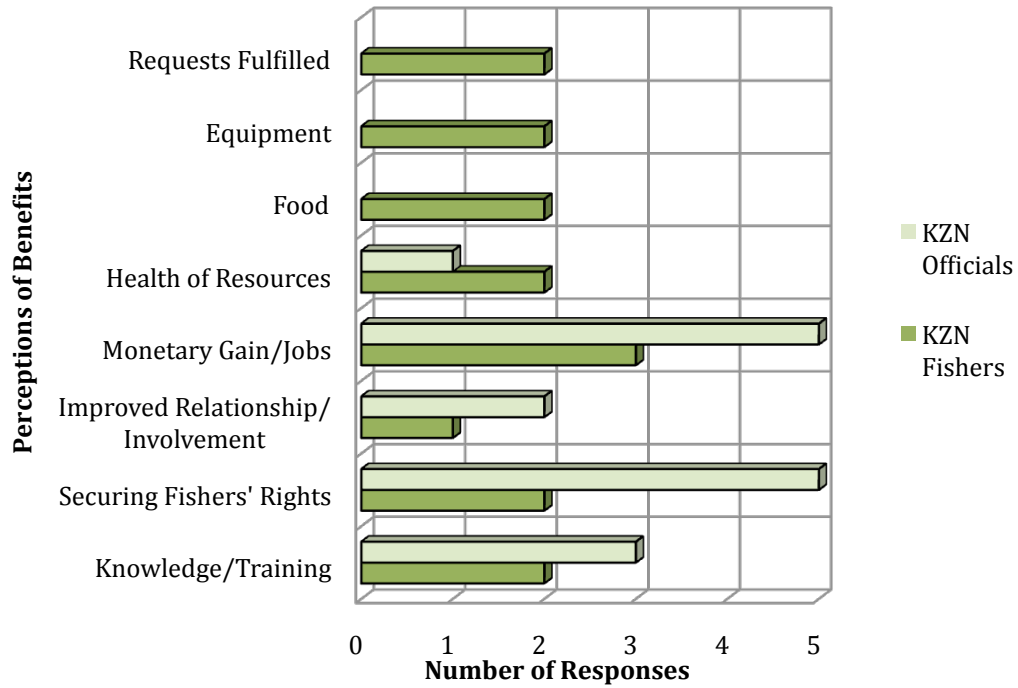


Figure 19 – Perceptions of KZN stakeholders (fishers and government officials) with respect to benefits that should accrue to fishers from co-management



Figure 20 – Perceptions of the EC/WC stakeholders (fishers and government officials) with respect to the benefits that should accrue to fishers from co-management

5.2.3 The Co-management Process – the Concept

5.2.3.1 Perceptions of who should be involved in co-management

Many interviewees described “a partnership” when discussing the term co-management. However, stakeholders were also asked who they believed should be involved in a co-management arrangement, or in other words, who should be part of this ‘partnership’? Ninety percent of the respondents (36 of 40) believed that a combination of stakeholders should be involved. In KZN, most respondents named the fishers and committee members, as well as the government officials that are currently involved with the community (such as the DCOs, CCOs, extension officers and other EKZWN and SFIU staff) as key partners. There were also a few KZN fishers that believed the traditional authority should be involved, since many of the communities in their area are involved in co-management arrangements. However, KZN officials believed that although traditional authorities should be informed, they should not be involved. One government official from KZN specifically stated that, *‘Traditional leaders should be part of the initial steps, but shouldn’t be part of the process. Because they bring in more politics, which brings in more problems. The community should run on their own’* (KZN5).

Fishers from the EC/WC similarly described community members and government officials as the primary stakeholders who should be involved in co-management. MCM officials were also adamant that a combination of stakeholders should be involved in co-management. They stressed the importance of involving research institutions, civil society organisations (such as NGOs and CBOs), SAPS, and local government.

5.2.3.2 Initiating Co-management

Stakeholders were asked what they considered to be the key reasons for initiating co-management. They were also asked to describe what they considered to be the key activities of a typical co-management process.

5.2.3.2.1 Fishers’ perceptions

The responses given for reasons to initiate a co-management arrangement were similar to those responses given in relation to co-management objectives and benefits. In all the

case studies, fishers identified three key reasons for initiating co-management: (1) to improve management by “working together”; (2) allow for more efficient communication between stakeholders; and (3) improve the relationship between the stakeholders (primarily between the fishing community and the government). In KZN, some fishers also mentioned “protecting marine resources”, “decreasing poaching”, and “increasing economic activities” in the communities as a reason to initiate co-management.

In terms of the key activities required to initiate a co-management arrangement, 67% (14 of 21) of fishers stated that a meeting with the community was a necessary first step to explain co-management and set up a committee. One fisher in Swartkops explained that he would *‘call the people of the area and tell them about the idea of co-management in a meeting’* (SF3). Another fisher in Ebenhaeser went a step further and explained that he would *‘start lobbying with the locals and have a discussion to start a structure – a committee – to solve issues. We would also create a network with others involved’* (EF2). Similarly, a fisher from Mfazazana explained that *‘I would call a community meeting and explain about co-management and then elect people for the committee’* (MF6). There was also mention of involving the government, as one fisher in Nonoti described, *‘First I would consult the community. Then I need to get the government next to me because I am dependent on the government’* (NF2).

5.2.3.2.2 Government officials’ perceptions

Again, the responses received from this question were very similar to the responses received from the question relating to interviewees perceptions about objectives and benefits of co-management. Interestingly, 62% (8 of 13) of government officials explained that the reason to initiate a co-management arrangement was to create a partnership with the community to allow for more effective management of the marine resources. In particular, one official from MCM explained that *‘co-management is there to help people and jointly make a decision – to give some assistance to each party’* (MCM4). Forty-six percent (6 of 13) of officials mentioned the importance of “sustainable management”. For example, one government official from KZN believed the reason to initiate co-management is *‘to create a partnership – to work with the people*

and explain why we need sustainable management. It also allows for more effective management, because the government can't always be there' (KZN8). Another official spoke of implementing co-management as a more effective management approach – *'past management – the top-down approach – it hasn't and doesn't work'* (KZN1). Thirty-eight percent (5 of 13) of officials interviewed explained that co-management provides the platform to secure fishers' rights – *'people weren't being transformed with the new regulations, people were being arrested without explanation'* (KZN7). Finally, some spoke of the new Constitution (1996), and how co-management reflects the principles in it: *'the South African Constitution speaks of the protection of the environment and requires citizens to be involved'* (MCM2).

Government officials gave much more detail when describing the activities that were necessary for setting up a co-management arrangement. Those from KZN gave very similar responses, which also reflect the current co-management implementation strategy within the province. Some of the activities that the KZN officials described are:

- 1) Consult with the local iNkosi (traditional leaders) and explain the purpose of meeting with the community;
- 2) Meet with the community and explain the purpose of co-management;
- 3) Conduct a stock survey to assess sustainable harvesting levels;
- 4) Introduce the community to the local compliance staff and explain the laws, rules, permit criteria, access regulations, etc.; and
- 5) Set up an election process to create a local committee (which would also include the relevant government officials). Define co-management objectives, roles and responsibilities.

There was also mention of developing and signing a co-management agreement, setting up education and training workshops for the youth, as well as identifying alternative livelihoods other than fishing.

Although there was a much greater variation of responses from MCM officials, each official spoke of the need to identify relevant stakeholders and set up meetings with them.

MCM officials working in the communities gave brief explanations of how co-management processes should be set up, whereas MCM officials from the head office in Cape Town gave more details. Some of the more detailed responses included setting up a capacity development program for the community, creating a platform of communication so that the government can also learn about traditional practices, ensuring that different levels of government are included so that there is cohesion across the levels, as well as an assessment of the marine resources.

5.2.3.3 Decision-making

5.2.3.3.1 Fishers' perceptions

When fishers were asked how decisions should be made in a co-management arrangement, every fisher mentioned the importance of discussing the issue at hand and coming to a decision together. In KZN, this meant the co-management committee (which includes both fishers and government officials) would make the decision, whereas in Ebenhaeser and Swartkops this meant meeting with the government and other stakeholders, sharing ideas and agreeing upon the best decision to be taken. All fishers believed that the community should participate in the decision making process and that decisions should not be made by one person. Fishers recognised the importance of involving the government in the decision-making process, but wished to be heard, understood and be part of decision-making. As one fisher in Ebenhaeser stated, *'we don't want to be above the government, but the government needs to respect us'* (EF1).

5.2.3.3.2 Government officials' perceptions

In KZN, most government officials were of the opinion that decision-making should not solely be a government responsibility. Instead, they supported the idea of joint decision-making, with the committee, and believed that this is the best way to make a decision. KZN officials also expressed that ideally, a decision should be acceptable to all parties involved. However, the officials were also quite clear that there are some decisions that cannot be taken with the community. Certain decisions (such as resource controls e.g. size limits) are the responsibility of government as required by law. Furthermore, 23% of officials believed that decisions must also be in line with sustainability principles, and

therefore scientific knowledge played a key role in the decision making process. One KZN official argued that if there is a difficult situation, and a decision cannot be made collectively, “it is up to the government authority to take the decision” (KZN4).

Forty percent of MCM officials also believed that all stakeholders should be involved fairly and equally in the decision-making process, however a few expressed the difficulty of achieving this in practice. This was largely due to the requirements of national policies, and as a result, certain decisions would need to be made within the legal constraints of these policies. One MCM official also expressed that *‘decisions need to be made based on sound conservation practices and science’* (MCM2). Another official stated that during the decision-making process, a representative of each stakeholder group should be present and participate in a democratic way. It was also stated that the government representative should be at a senior level so that is the person representing government is *‘closer to the decision-making level’* (MCM4). Finally, one government official from MCM commented that although the decision making process should be based on debates among all the relevant stakeholders, the action of taking a decision should be made by one person: *‘I don’t believe in democracy when it comes to making decisions. One decision needs to be made, since it is easier to make quick decisions. This way we can get results more quickly and then can make a different decision, and amend management quickly. But we must be aware of the best options!’* (MCM5).

5.2.3.3.3 Other stakeholders’ perceptions

Interestingly, all other stakeholders supported the view that in a co-management arrangement, decisions should be taken together. In particular, they believed that meetings with all the stakeholders allows a platform for opinions to be shared and debates to occur. There were some stakeholders from Swartkops that felt strongly that the law should guide decision-making, *‘we need to all talk, but the bottom line is the law’* (SS1). However, all of the other stakeholders in both Swartkops and Ebenhaeser believed that each stakeholder group must be properly represented, and that each voice should be considered equally and fairly. One stakeholder from Ebenhaeser also stated that no matter

how difficult the decision, it should be taken in conjunction with the other stakeholders: *'the [government] needs to learn to share difficult decisions with the community'* (ES2).

5.2.3.3.4 Incorporation of traditional knowledge and customary practices in the decision-making process

When the stakeholders were asked whether traditional knowledge and customary practices should be considered in the decision making process, most fishers (especially in KZN) indicated that it was important to involve their traditional knowledge in decision-making. Similarly, in Ebenhaeser and Swartkops, fishers argued that their knowledge of the fishery system needed to be taken into account when making decisions. One fisher in Ebenhaeser also expressed the view that their traditional fishing methods should be understood, and argued that these traditional methods had not caused problems for the fish stock in the past – *'fishers' experience and how we fish today has not and does not cause problems for the river'* (EF4).

Most government officials believed that traditional knowledge should play a part in the co-management process, but that this information *'must harmonise with sustainable use of the resource'* (KZN2). Some officials considered that learning about traditional knowledge and practices could help the government better understand the community, which would allow for more effective management. Since each community is different, acknowledging these customary practices will allow for a management plan that caters to the specificities of the community (KZN1).

MCM officials held a similar view with regard to the use of indigenous knowledge, believing that fishers have special knowledge of the area and the resources, and that traditional knowledge could align with scientific knowledge. One MCM official explained that if the two types of knowledge are *'mismatched, then you need to try to compromise between the two'* (MCM1). Another view emphasised that indigenous knowledge does not mean primitive knowledge, and highlighted that *'we need (traditional knowledge) as much as possible – it gives more variety!'* (MCM5).

Interestingly, the other stakeholders from Ebenhaeser and Swartkops, even those with a strong scientific orientation, felt strongly that traditional knowledge and customary practices should be considered in decision making processes. One stakeholder from Ebenhaeser felt that consideration of traditional knowledge and practices shows respect for the community, and fosters a positive relationship (ES1), while another stated that it is critical to consider this knowledge as *'we know that local knowledge shapes local decision-making, so therefore it is fundamental'* (ES2).

5.2.3.4 Communication

'Without communication, co-management is dead' (KZN5)

During the interview, stakeholders were asked how communication should function within a co-management arrangement – meaning how often, with whom, and through what medium should communication occur.

5.2.3.4.1 Fishers' perceptions

The most common response from the fishers was that meetings should occur on a regular basis between the fishers and the government, so that information can be relayed, and government can hear the issues and requests of the community. Fishers from KZN were specific and stated that meetings should occur once a month (which is the current requirement in KZN). Other fishers (primarily from Nonoti) also mentioned that constant communication should occur between the community and the compliance staff in order to decrease poaching in the area. Fishers in Ebenhaeser also expressed that better communication leads to better decision-making.

5.2.3.4.2 Government officials' perceptions

Similarly, officials in KZN believed that face-to-face meetings are the most effective form of communication. There was a strong belief that meetings should occur monthly, but not rigidly, and if there is a need to meet, based on specific issues, then a meeting should take place. Officials also expressed that continuous communication can build trust between the stakeholders, and is essential for decision making. KZN officials also felt strongly that communication should commence early in the co-management process and

be continuous. There should also be communication with respect to the exchange of traditional and scientific knowledge, to allow both stakeholder groups to understand one another's perspectives.

MCM officials also expressed the importance of meetings to voice requests and to allow for equal participation. One MCM official stated that while early communication will *'build momentum and build trust'*, *'once the co-management arrangement is rolling and more stable, meetings don't have to be as often'*(MCM1). However, another official stated: *'as much communication as possible!'* is required (MCM5).

5.2.3.4.3 Other stakeholders' perceptions

Similar to the fishers' views, the other stakeholders agreed that continuous communication is vital to the health of a co-management arrangement. Further, they argued that each stakeholder group needed proper representation, which truly represented the interests of their group. Most importantly, these stakeholders believe that communication must be consistent throughout the co-management process, and must also be face-to-face, as some stakeholder groups might not have access to electronic forms of communication such as the internet.

5.2.3.5 Co-management links to other projects

In this section, stakeholders were asked to what extent co-management should link to other socio-economic development projects in the area.

5.2.3.5.1 Fishers' perceptions

All fishers interviewed (21) felt strongly that co-management should be linked to other socio-economic development projects in their areas. The reasons for this are varied, but most argued that fishers (and others in the community) are struggling to survive and need other livelihood opportunities. Unemployment is high in the communities investigated, and the people are in need of money. Furthermore, many fishers (mainly in KZN) stated that there are fishing seasons, or that they are only allowed to harvest resources once a month, so they require alternative livelihood strategies for when fishing cannot provide

for their needs. Similarly, two fishers from KZN explained that they are currently too dependent on the resource as their sole means of livelihood. One fisher stated that *'co-management has a strong role in the community'* (MF2), suggesting that co-management provides a platform to develop other projects with the government and other stakeholders.

5.2.3.5.2 Government officials' perceptions

Interestingly, the responses received from the KZN government officials match the responses of the fishers – 100% of government officials from KZN believed that co-management should link to other socio-economic development projects in the area. Most officials explained that people in the communities harvest resources because there are no alternatives and this is a key issue facing resource management. However, if there were alternatives, it would create less pressure on the resource. Furthermore, one official specifically clarified that the existence of alternative livelihoods would allow more benefits for the fishers, and for government (since there would be less stress on resources). One official also expressed that *'a good relationship between the stakeholders allows space to look for alternative livelihoods'* (KZN2). Most officials in KZN stated that finding alternative livelihoods for the fishers should be the next step in co-management efforts within the province.

All MCM officials were interested in the concept of alternative livelihoods, but were hesitant about claiming the responsibilities of identifying and developing alternative livelihoods. Two officials stated that alternatives are often tricky to develop, and one official stated, *'people believe this to be a long-term solution, but often it ends up being a short-term solution'* (MCM4). However, all government officials believed that all feasible livelihood opportunities should be explored.

5.3 Perceptions of Co-management Practice

In this section, the findings from interview questions dealing with the respondents' experience of co-management in the selected case studies are presented. It is important to note that there are no formal co-management agreements developed for any of the four case studies investigated, and as such, the responses analysed in this section are the respondents' understanding of what is currently happening in the co-management arrangements in their respective area. These understandings are then compared to the respondents' perceptions of the *concept* of co-management presented in the previous section. The purpose of this comparison, therefore, is to assess the respondents' conceptual understanding of co-management versus their experience of co-management in practice.

5.3.1 The Co-management Process – In Practice

During each interview, stakeholders were asked to describe current co-management processes, objectives and benefits within their area, and whether they were satisfied with current processes and outcomes. Table 3 provides a summary of co-management characteristics in the four case studies: Mfazazana, Nonoti, Ebenhaeser and Swartkops. Much of the historical context of the case studies is outlined in Chapter 4. This section starts with a brief summary of the current status of co-management in each community (based primarily on information received from the respondents), as well as any conflicts and/or challenges that have recently occurred. These current status of each co-management arrangement is based on facts obtained primarily from interviews.

5.3.1.1 Mfazazana, KZN

Even though the co-management arrangement is functional and there are regular meetings, the process has seen some challenges. The committee has on several occasions requested that the bag limit be increased or that fishers be allowed to harvest other marine resources (such as east coast rock lobster). These requests have not been satisfactorily addressed according to the Mfazazana community, and this has caused frustration. When the fishers were asked whether they were satisfied with the current decision-making process, there were mixed responses. One fisher said, *'I am not satisfied. We address the*

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problems to give to management but there is no feedback' (MF2), while another said, *'I am satisfied because we are working together with the monitors and there is more respect'* (MF5). Likewise, there were mixed views on whether there is adequate communication among the stakeholders or not – *'I am happy, but not too much. The government wants the community to respect the rules, but the government is not respecting the community's requests - and yet it is supposed to be equal'* (MF7).

Furthermore, there has been conflict in the recent past between compliance staff and illegal fishers (fishers without permits). These fishers have been harvesting and selling crayfish along the highway, despite it being illegal to do so. Compliance staff have been trying to limit this activity, but violent outbreaks have recently occurred – rocks have been thrown at compliance officers and their cars. Even though efforts have been made to improve the relationship between EKZMW compliance staff and the community, tension remains and lobster poaching continues to be one of the biggest challenges in the area.

5.3.1.2 Nonoti, KZN

The co-management structure in Nonoti is functional and the committee has regular meetings and continues to meet under a large tree in the community. There have been requests to build a community hall so that the committee has a proper place to meet, but no plans have been made to do so. The fishers are content with the current co-management arrangement. All of the fishers agreed that they are satisfied with the current decision making process, and one fisher said: *'yes I am happy because what is discussed has been heard'* (NF2). Similarly, all the fishers were satisfied with the nature of communication between the government and the community: *'the government helps us a lot. The SFIU helps with knowledge and also addresses all issues with us'* (NF5).

The community has been known to work closely with the DCO in the past. The SFIU provides airtime to committee members, so that if they witness any poaching they are encouraged to call the DCO. The community is generally very keen to stop poaching in the area, and at the time of the interviews some poachers from outside of the area were

caught and fined. Recently the committee has also decided to stop harvesting mussels because of concerns about the status of the stocks. As one fisher recounts, *'since we have noticed a decrease of mussels, we decided to stop harvesting. Later a stock survey showed that there are now mussels again. We have decided to harvest again but with smaller quota'* (NF5). The community feels empowered to make decisions like this, and have been happy with the results. One fisher described the current situation in Nonoti as, *'everything is going well here – everything is straight like an arrow'* (NF4).

5.3.1.3 Ebenhaeser, Western Cape

There is currently no co-management activity in Ebenhaeser. A fisher committee still exists, but it is not part of a co-management arrangement with government. Rather, it is a community-based committee that comprises nine people from Ebenhaeser, representing both fishers harvesting resources from the river and from the sea. Within the last three years the co-management initiative has broken down due to government taking decisions that excluded the fishers. Also, the recent death of the committee chairperson has had a big impact on the functionality of the committee, and only very recently has there been an effort to reorganise and elect a new chair and committee members. The committee now includes “Fishers of the River” and “Fishers of the Sea”, but still does not meet with government representatives on a regular basis. Not surprisingly, every fisher is strongly dissatisfied with the current decision-making process and communication with the government. When describing the situation, one fisher said, *'we don't make any decisions so I am not happy'* (EF3), while another fisher described, *'there is only communication when the fishers go to the government, but even then the communication is not clear. The government ignores us'* (EF6).

Recently there has been an increase in conflict within the community, specifically amongst the fishers. There are political differences as well as tensions between the two groups of fishers, due to the differences in monetary benefits received from the different fisheries. There have been several other conflicts in the past, which have been largely ignored by government. Furthermore, when government representatives visit the community, they often don't engage in a discussion with the fishers. As one fisher

described, *'there is conflict with the government – they sent a guy to meet with us and he wouldn't allow us to speak. We will never forget this'* (EF5). At present, the main communication the committee or the community has with the government is in terms of a recently prepared draft Olifant's Estuary Management Plan (OEMP) – a new management plan for the estuary. According to the most recent draft, much of the river used by the Ebenhaeser fishers will be closed to fishing activities (Anchor Environmental Consulting 2010). In particular, the new proposals prohibit recreational fishing, motorised boats and gillnet fishing (the latter being the fishing methods used by the community) for 14 km upstream of the river mouth, the traditional fishing grounds of the Ebenhaeser community. There was very limited consultation with the fishing community over the OEMP, and the issue of gillnet fishing has not yet been resolved. This has caused much frustration and anger amongst the fishers of Ebenhaeser and increased tensions and mistrust between the fishers of Ebenhaeser and MCM as well as the consultants and conservation agency managing the OEMP process.

5.3.1.4 Swartkops, Eastern Cape

The co-management committee that was established in 2002 has ceased to function. Many of the bait fishers in the area do not have any understanding of a co-management arrangement with government since it has not been functioning over the past few years. Those fishers that participated in the co-management arrangement when it was functional, are very negative about how decisions are currently being made and the lack of communication amongst stakeholders. One fisher complained, *'I am not satisfied with how decisions are being made because we are not part of the decisions. They told us we would be involved but we are not actually'* (SF1). Similarly, another fisher protested, *'government makes their own decisions, it's a one-sided approach'* (SF2). The various stakeholders rarely meet, and some believe it is because of the reliance on the MCM officials based in Cape Town and the lack of support from stakeholders in the local area. Government meetings over the last two years have only been held with the MCM extension officer over licensing issues. Although meetings are held to discuss the proposed Estuary Management Plan, a co-management meeting among the stakeholders has not occurred since October 2008. Similarly, the community-based monitoring system,

which was implemented in the initial phases of the project, has also fallen apart. Many stakeholders involved in the Swartkops fishery agree that the co-management arrangement is no longer functional.

5.3.2 Understandings of Co-management Objectives – in Practice

Although none of the four case studies have a formal agreement, with co-management objectives explicitly stated, respondents were asked to explain their *understanding* of the objectives of co-management in practice in their respective community. This section analyses these understandings in order to 1) determine if there are common understandings between the fishers, government officials and ‘other stakeholders’ with respect to objectives in practice; and 2) compare the respondents’ perceptions of what co-management objectives should be (from section 1.2) to their understanding of what the co-management objectives are in practice.

5.3.2.1 Understandings of co-management objectives in practice in KZN and the EC/WC case studies

Each stakeholder was asked to explain their understanding of the primary objectives of the co-management arrangements in their respective community. However, since both co-management arrangements in the EC/WC have collapsed, stakeholders were asked their opinions of what co-management objectives were when co-management was still functional. Figure 21 depicts the KZN fishers and government officials’ understandings of the objectives for the Nonoti and Mfazazana co-management arrangements. Although there are differences between government and fishers’ understandings of co-management objectives, the graph shows that there is some consistency between these two groups understandings. Both fishers and government officials equally believed that “securing fishers’ rights” and “decreasing poaching” are objectives of the current co-management system. Fishers and officials also agreed that “working together” and “sustainable management” are current objectives of co-management practice, although there are more officials than fishers that believed this. There are some differences between the two stakeholder groups – only government officials stated that “training” and “alternative livelihoods” were objectives of current initiatives, whereas some fishers highlighted

“poverty relief” and “fulfilling community requests” as key objectives of current co-management efforts.

Figure 22, on the other hand, compares the understandings of objectives of co-management (prior to the collapse) as experienced by the fishers and MCM government officials involved in co-management in Ebenhaeser and Swartkops. By looking at Figure 22, one can see that there is almost a complete contrast between the fishers and the MCM officials in terms of their understandings of co-management objectives in practice. The only area where there is some agreement between the two groups is with respect to “education and training” where both groups considered this to be an objective, and even in this case, only two fishers and one MCM official mentioned this. Every other objective was mentioned either by government officials only or fishers only. Objectives that the fishers concentrated on were “working together” with the government and “research” of the resources. Conversely, MCM identified “securing fishers’ rights”, “sustainable management”, a “decrease in poaching”, and creating “institutional capacity” as the objectives for the Swartkops and Ebenhaeser case studies.

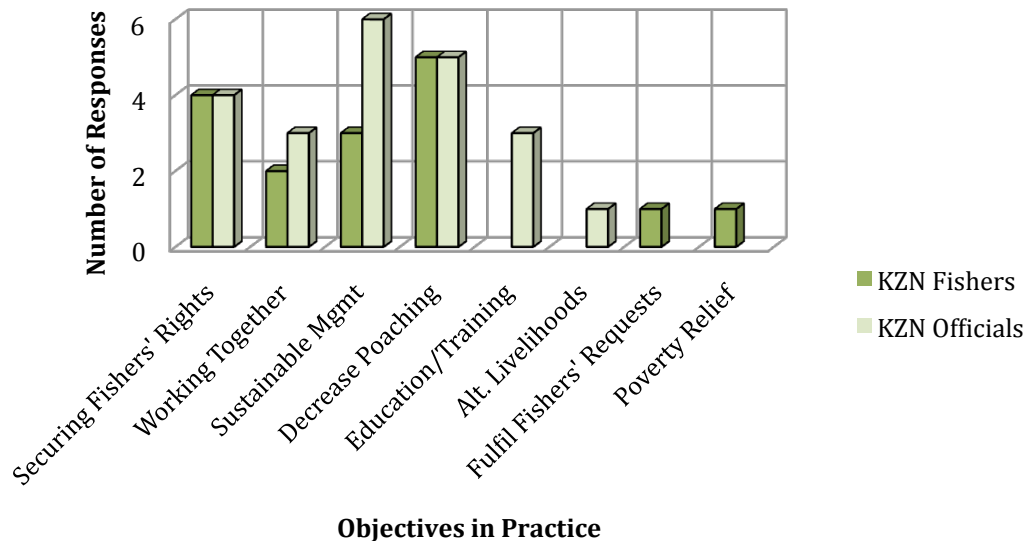


Figure 21 – Co-management objectives in practice – a comparison between the understandings of KZN fishers and KZN government officials

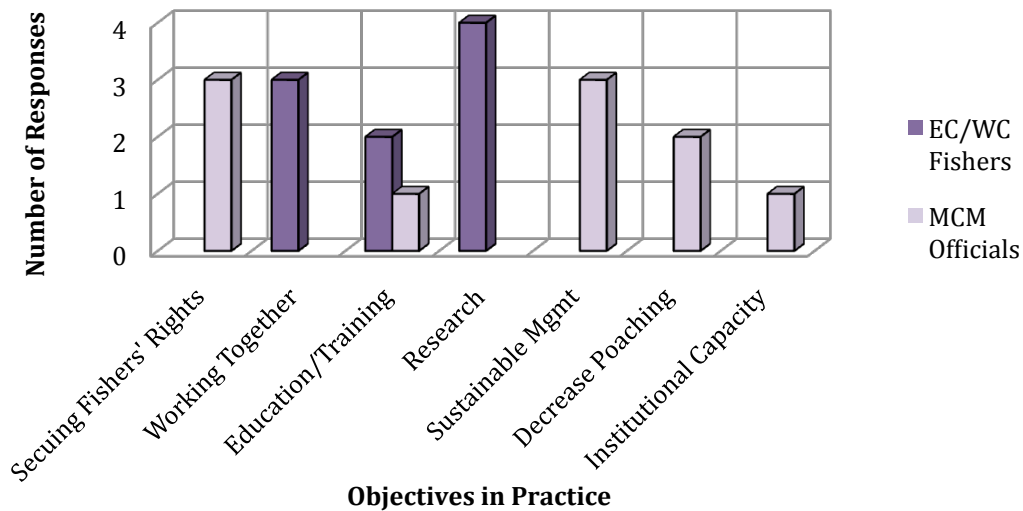


Figure 22 – Co-management objectives in practice – a comparison between the understandings of EC/WC fishers and MCM government officials

5.3.2.1.1 Other stakeholders' understanding

The stakeholders of Swartkops believed that the prior objectives of the co-management efforts (when functional) at Swartkops have been to 1) create a partnership to maintain sustainable management of the estuary; and 2) legalise the subsistence fishers. Although all the stakeholders recognised the importance of a harmonious relationship, most focused on “sustainable management” of the estuary as the primary objective of co-management, an understanding that closely resembles that of the MCM officials. Although the other stakeholders of Ebenhaeser recognised “sustainable management” as a key objective of the co-management arrangement, they also highlighted the implementation of “fishers’ rights” and “equal decision-making power” as objectives of co-management in practice.

5.3.2.2 Perceived objectives versus objectives in practice

In this section, the respondents perceptions of what they considered should be the objectives of co-management are compared with their understandings of co-management objectives in practice in their respective community (and in the case of Ebenhaeser and Swartkops – the stakeholders’ understandings of objectives when co-management was still functional). The purpose of this comparison is to determine to what extent the

stakeholders' perceptions of theoretical objectives are being translated into co-management objectives in practice.

5.3.2.2.1 Fishers' perceived objectives versus objectives in practice

Figure 23 depicts the KZN fishers' perceptions of co-management objectives in theory (light blue) and their understanding of objectives in practice (dark blue). This figure shows that there are similarities between what fishers believe the objectives should be and their experience of the objectives in practice for their current co-management arrangements at Nonoti and Mfazazana. However, the two main inconsistencies are "working together" and "decrease in poaching". While 42% of fishers believe that "working together" should be an objective, only 17% identified this as an objective recognised in practice. Conversely, only one fisher expressed that "decreasing poaching" should be an objective, whereas 42% of the fishers identified this as a current objective of the co-management arrangements within their community.

Figure 24 shows the contrast between the EC/WC fishers' perceptions of objectives in theory and their understanding of objectives in practice. The greatest inconsistency is that 67% identified "working together" as an objective of co-management in theory, but only 33% of fishers felt that this was in fact a practical objective in Ebenhaeser and Swartkops. In Ebenhaeser four out of six fishers identified "scientific research" – to determine the state of the marine resources – as an objective of the recent co-management initiative.

Overall, Figures 23 and 24 illustrate that in KZN, there are more similarities between what the fishers believe the objectives of co-management should be and what they are in practice. Conversely there are far fewer similarities between the perceived objectives (in theory) and the objectives (in practice) that the EC/WC fishers described.

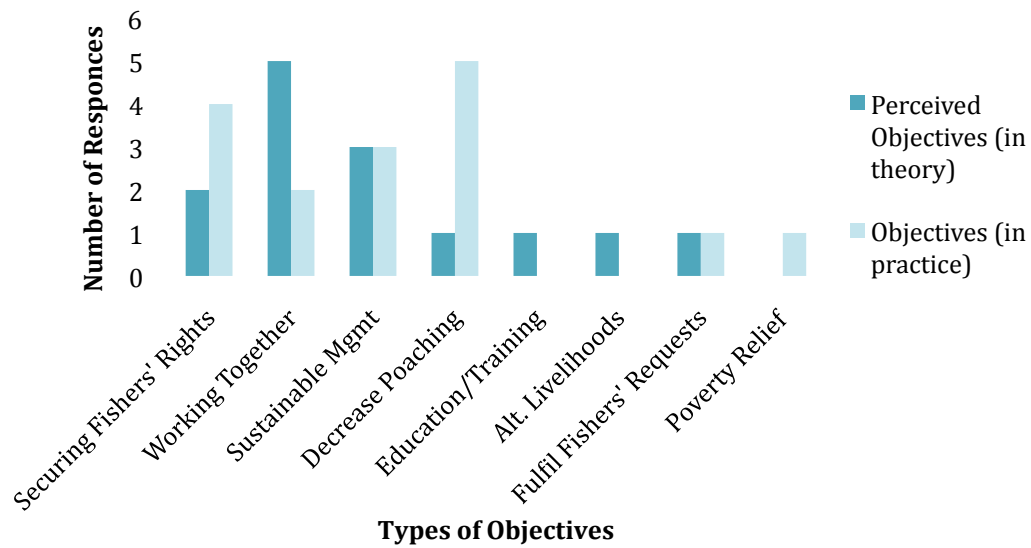


Figure 23 – The KZN fishers’ perceived objectives versus their understandings of objectives in practice

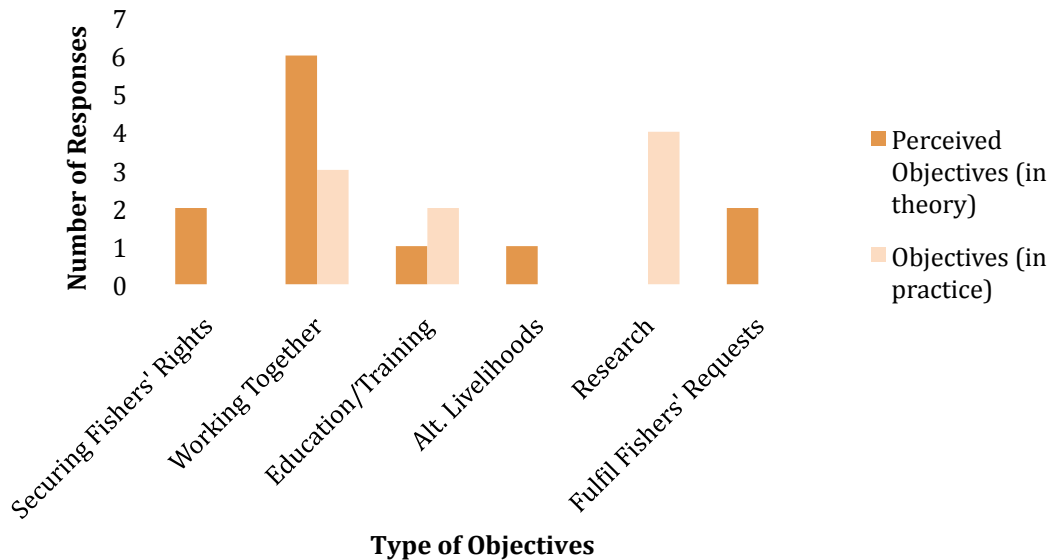


Figure 24 – The EC/WC fishers’ perceived objectives versus their understanding of objectives in practice

5.3.2.2.2 Government officials’ perceived objectives versus objectives in practice

In general, both KZN and MCM officials’ understanding of the objectives of co-management from a theoretical and practical perspective are aligned (Figure 25 and 26). Both KZN and MCM government officials identified “sustainable management” as a key objective of any co-management effort, and also recognised it as an actual objective in

the four case studies. Interestingly, however, in KZN 63% of officials identified a “decrease in poaching” as an actual objective in the cases of Nonoti and Mfazazana, and yet only one official identified this as an objective when asked ‘what the objectives of a co-management arrangement *should be?*’.

Interestingly, when comparing the government officials’ perceptions about objectives to their experience of objectives in practice (Figures 25 & 26), there is much more consistency with the governments’ perceptions than amongst the fishers (Figures 23 & 24). This is the case for both KZN and the EC/WC.

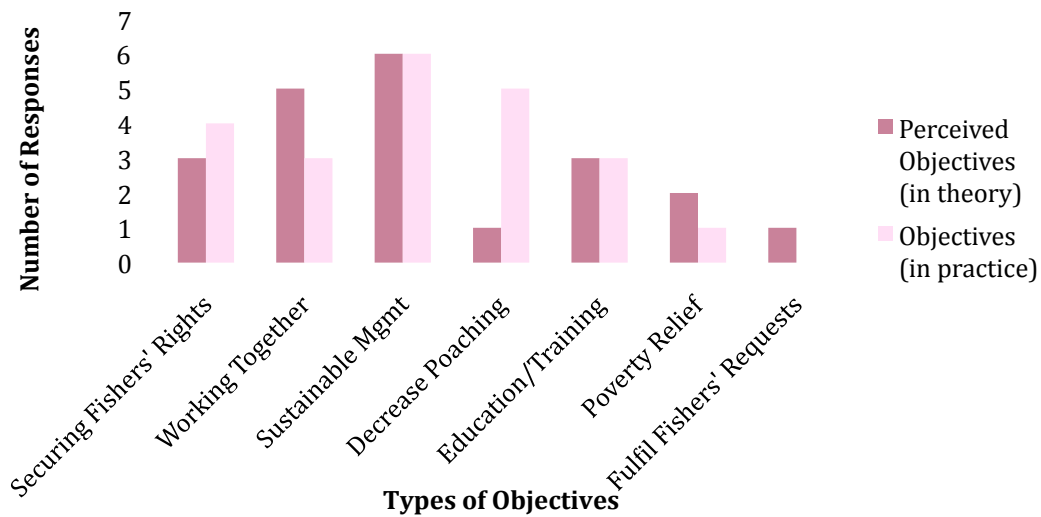


Figure 25 – The KZN government officials’ perceived objectives versus their understandings of objectives in practice.

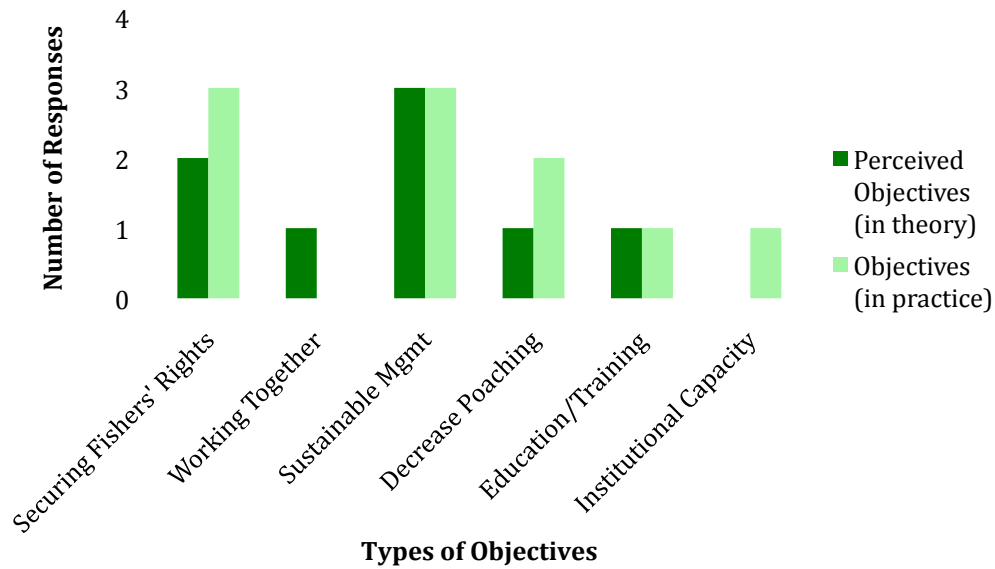


Figure 26 – MCM government officials’ perceived objectives versus their understandings of objectives in practice

5.3.3 Understandings of realised benefits

5.3.3.1 Fishers’ understanding of realised benefits

Fishers were also asked to describe how the fishing community and the government officials have benefited from their respective co-management arrangements. Figure 27 compares the KZN and EC/WC fishers’ understanding of realised benefits from current co-management processes. The most common response for KZN fishers in terms of realised benefits was the “securing of fishers’ rights” (including gaining permits and access to resources). Fishers from Nonoti specifically stated that they had benefited from an “improved relationship” with the government and more “involvement” in the management process. Overall there are a variety of benefits that the KZN fishers believe they are receiving in practice; however many of these benefits do not match the conceptual benefits that they mentioned previously.

Unlike the fishers of KZN, fishers from Ebenhaeser and Swartkops largely believed that they had received no benefits linked to their involvement in the co-management arrangements. Specifically, 89% (8 of 9) of fishers interviewed at these sites believed that they have seen no benefits.

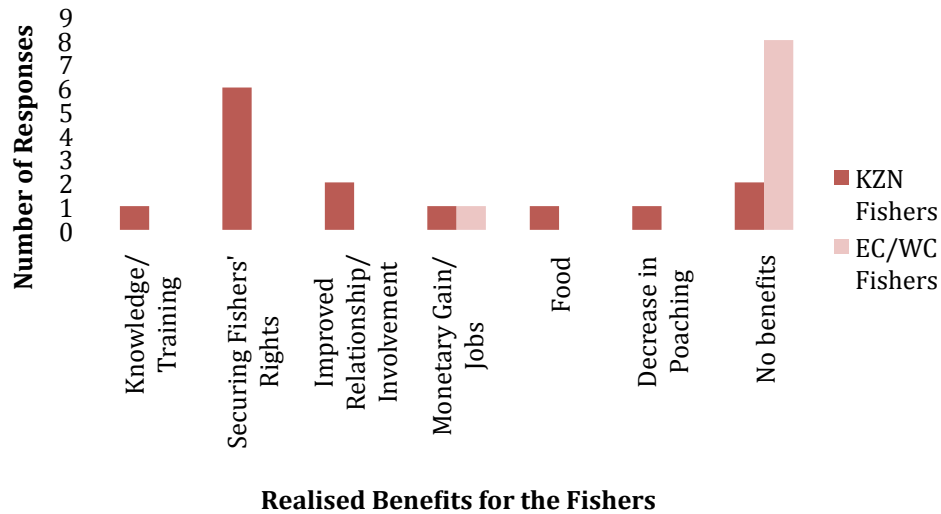


Figure 27 – Realised benefits of co-management – KZN fishers’ perceptions versus EC/WC fishers’ perceptions

5.3.3.2 *Government officials’ perceptions of realised benefits for fishers*

Government officials from KZN and MCM believed that an “increase in knowledge” from training and capacity building workshops is one of the biggest realised benefits for fishers and the community from a co-management arrangement (Figure 28). KZN officials also considered the granting of “fishers’ rights” as the main benefit for fishers, however not one MCM official mentioned this as a realised benefit. There were also a few officials that mentioned an “improved relationship” with the government and “food security” as practical benefits for the community as a result of co-management. Finally, and interestingly, 23% (3 of 13) of the KZN and MCM officials believed that there are currently very few or no benefits for the fishers as a result of co-management arrangements.

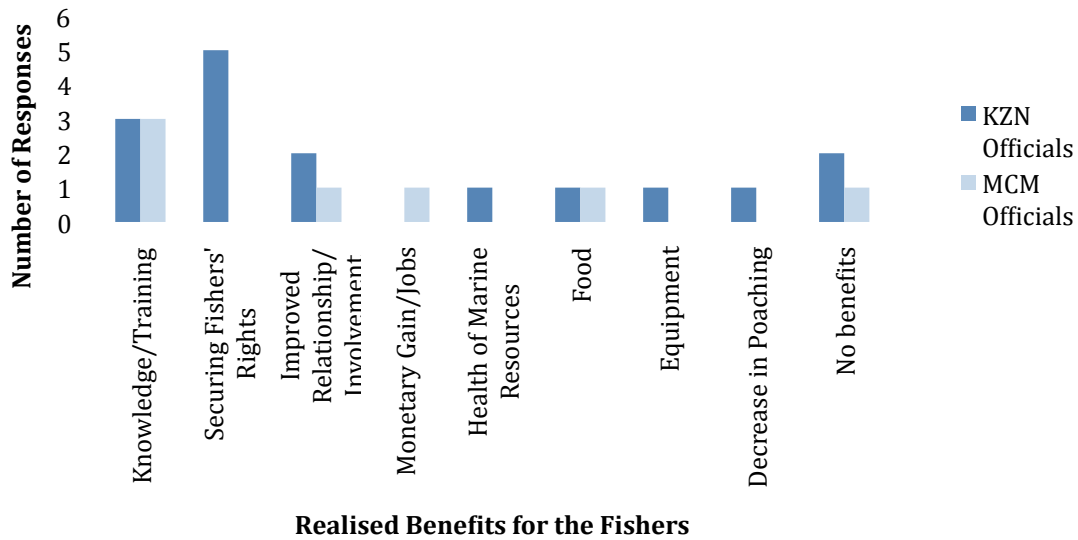


Figure 28 – Realised benefits of co-management – KZN officials’ understandings versus MCM officials’ understandings

5.3.3.3 Understandings of KZN stakeholders versus EC/WC stakeholders in terms of realised benefits

Figure 29 compares the perceptions of the KZN stakeholders (fishers and government officials) in terms of realised fisher benefits. This figure shows that KZN stakeholders believed that there are a variety of benefits that flow to the fishing community from co-management. In addition, these stakeholders have similar understandings in terms of how the fishing community is benefiting. However, there are also some differences – more KZN government officials believed that “knowledge and training” is a practical benefit for the fishing community, whereas only one fisher believed this to be so. Furthermore, there are some government officials that believed an “improvement in the health of resources” and “better equipment” are realised benefits, while none of the fishers mentioned these. Both stakeholder groups believed that the greatest benefit for the community has been implementation of “fishers’ rights”. However, there are a number of fishers and government officials that believed that the fishing communities are receiving few, or no benefits at all.

Figure 30 illustrates a comparison of the EC/WC stakeholders (fishers and government officials) in terms of their perceptions of realised fisher benefits. In contrast to the KZN stakeholders, this figure indicates that fishers from these case study sites and MCM

government officials believed that there are fewer benefits for the fishing communities in these co-management arrangements, and that there are different views regarding how the fishing community is benefiting. The key difference is that almost all fishers in these areas believed that they are receiving no benefits, whereas there is only one government official based in Cape Town who expressed: *'overall I do not believe there have been many benefits from either case studies'* (MCM1).

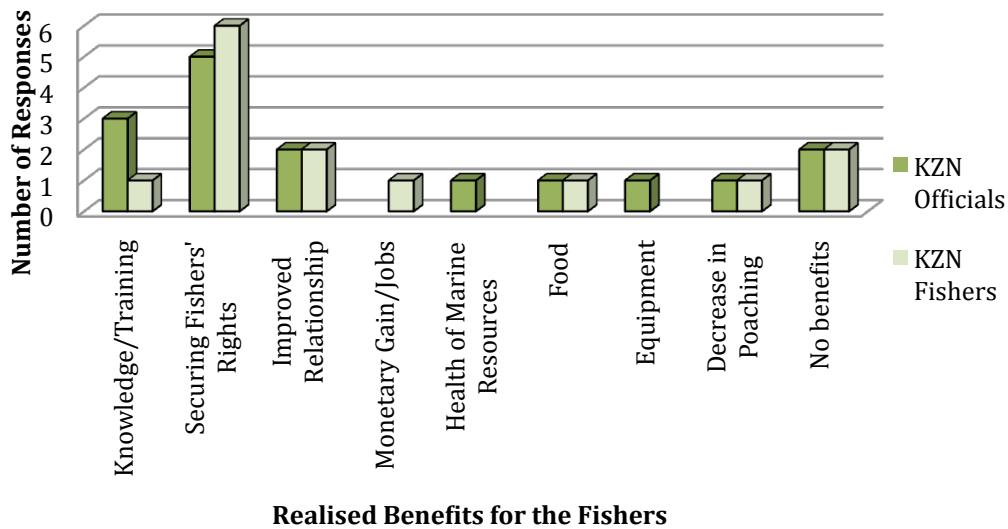


Figure 29 – Realised benefits of co-management – perceptions of KZN fishers versus KZN government officials

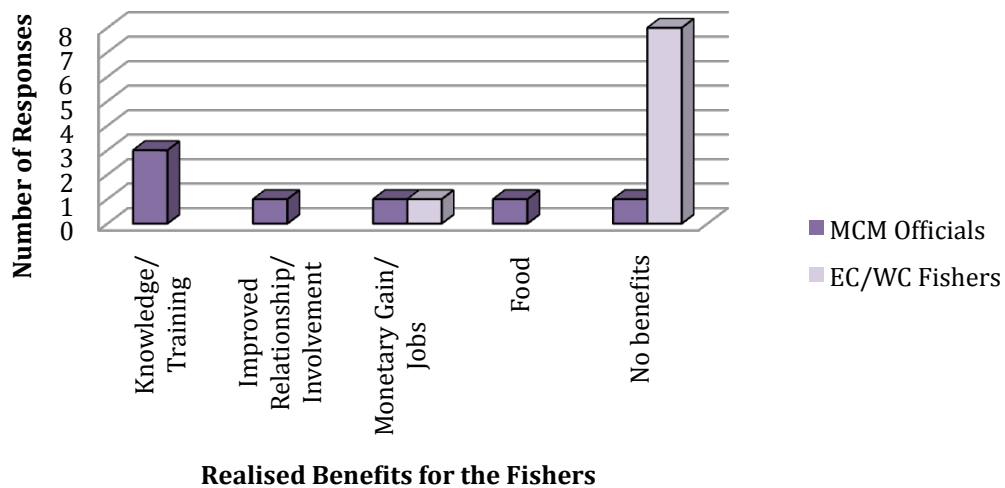


Figure 30 – Realised benefits of co-management –perceptions of EC/WC fishers versus MCM government officials

5.4 Respondents Support for Co-management as an Alternative Management Approach

The findings illustrate that there are various perceptions among stakeholder groups – ranging from how people understand the concept of co-management to how they experience co-management in practice. In addition, this research aimed to ascertain people’s perceptions of co-management as a potential management strategy for the future, based on their understanding and experience of co-management. In this final section, an analysis of responses to questions relating to co-management functionality and potential are presented. Each stakeholder was asked a series of questions on this topic, including whether they considered co-management to be a feasible approach in South Africa, what some of the factors are that facilitate or impede this approach, whether co-management is the most appropriate management approach within the case studies, and whether they had any suggestions on how co-management could be improved.

Each stakeholder was asked whether they believed co-management was the most appropriate approach for managing resources in their community, and to give reasons for their answers. Surprisingly, and irrespective of whether or not they believed co-management was actually working within their area or not, stakeholders (fishers, government officials, and other stakeholders) were very positive about the potential of co-management as an alternative management approach. Figure 31 shows that out of the 40 stakeholders interviewed, 37 (or 93%) believed that co-management is the preferred approach for their respective small-scale fishing community.

Only three respondents indicated otherwise. One fisher from Mfazazana believed that co-management was not the best approach since the requests of the community were not being addressed by government. Two government officials, both from MCM, were unsure. One of the officials believed that co-management is the best approach for Ebenhaeser, but did not believe it to be the best management approach for Swartkops, stating: *‘for Swartkops it is not the best approach, but I don’t know what needs to be*

done' (MCM1). The other MCM official responded, 'I am not ready to answer that. Co-management hasn't had enough space yet. It's not the best approach yet. It also needs political will, and needs pressure from the ground' (MCM5).

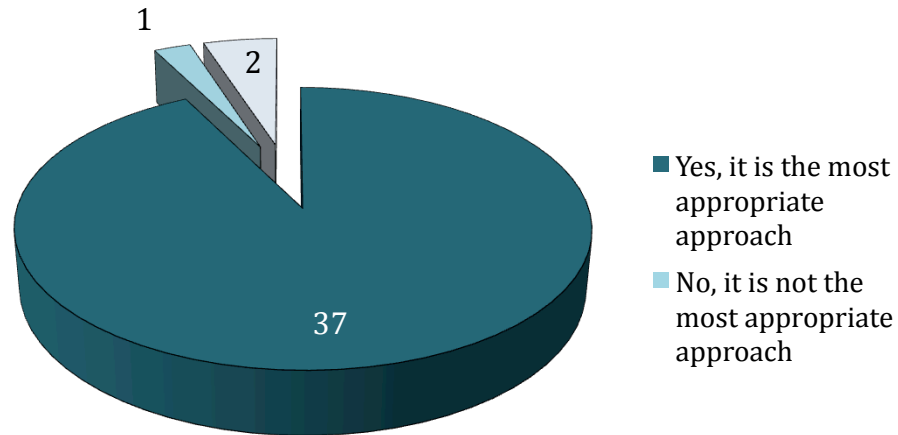


Figure 31 – Stakeholders' perceptions on whether or not co-management is the most appropriate management approach for their respective community

For the stakeholders that believed it to be the most appropriate approach, many explained that even though there are current challenges, it is an improvement from the past top-down approach to resource management. Most fishers in KZN referred to the fact that the government and community are now “working together” and there is an “increase in communication”. Others spoke of understanding one another, and coming to a decision together. Fishers from Ebenhaeser and Swartkops, although generally disappointed with current management practices, expressed that co-management had worked in the past, and believed that it has potential to work in the future. One fisher in Ebenhaeser explained, 'Yes, I believe co-management is the best approach – there is evidence that it could work' (EF3). Government officials likewise were optimistic about co-management. Officials spoke of an improved relationship with the community, and of a space where opinions and ideas can be shared.

However, even though most stakeholders believed co-management to be the best management approach, almost each response was followed with a “but” – meaning that currently there are problems and challenges, and certain changes and improvements were needed. Table 4 provides information on some of the responses that the stakeholders gave in terms of factors that obstruct co-management, as well as factors that can facilitate co-management.

Table 4. Stakeholders’ perceptions of factors that obstruct and facilitate co-management

Factors Obstructing Co-management	Factors Facilitating Co-management
<ul style="list-style-type: none"> • Lack of knowledge among stakeholders • Insufficient benefits (especially monetary benefits) for the fishers • Lack of respect between stakeholders • No proper representation of the community • Lack of institutional structure • Political conflict within communities • Lack of communication and language barriers – mistrust between stakeholders 	<ul style="list-style-type: none"> • Continuous and consistent communication among the stakeholders – CONSISTENCY! • Economic benefits • Improved compliance • Quicker decision-making process • Understanding the social dynamics of the community. • Make regulations adapted to the area, compromise • Workshops – education on co-management, sustainable mgmt, legislation, leadership, etc. • Infrastructure (especially on the local level) • Clear objectives among the stakeholders • Trust • Review of current management practices • Facilitators (at local level)

5.5 Summary

This chapter has presented the findings of interviews with 40 stakeholders. One of the key objectives of this study has been to identify the different perceptions and understandings of the various stakeholders towards co-management theory and practice and compare and contrast these perceptions across stakeholders and regions. In order to accomplish this, the interviews firstly sought to obtain information with respect to stakeholders’ perceptions of the concept of co-management (how co-management should function), and secondly, their understandings of how co-management is functioning in

practice in the four case study sites. Comparisons were then made between the various stakeholder groups, especially the fisher and government official groups. Comparisons were also made between the different regions – between co-management arrangements in KZN and arrangements in the EC/WC. The key findings emanating from this study are summarised below:

- 1) Understanding the term Co-management – There is a common understanding of the basic concept of co-management across the stakeholder groups which is primarily an understanding of co-management as a partnership amongst the various stakeholders, or ‘working together’ to manage marine resources. However, as further findings suggest, perceptions towards how this partnership should function (such as setting objectives, expected benefits, the decision making process and other mechanisms of co-management) differs amongst the stakeholders.
- 2) Differences in Perceptions of the Concept and Practice of Co-management – The interviews have indicated that despite a common understanding of the term co-management there are different perceptions amongst respondents with respect to what the objectives, benefits, and processes of co-management including stakeholder involvement, decision-making, and communication should be. Furthermore, different perceptions were also identified in terms of stakeholders’ experiences with the practice of co-management. Comparisons were made in order to identify trends of shared or differing perceptions between the two primary stakeholder groups (fishers and government officials). Overall, there are some differences in the perceptions of fisher groups and government official groups of both KZN and the EC/WC. However, findings have also indicated that there is a greater difference between the perceptions of fishers and government officials in the EC/WC, whereas the stakeholders in KZN hold similar perceptions with respect to the concept and practice of co-management.
- 3) Co-management as the Preferred Approach – Although there are different perceptions and experiences of co-management in terms of how it should function and how it is actually functioning, overall 93% of the respondents believed co-

management to be the most appropriate management approach. However, most respondents indicated that there were many challenges to be overcome in order for current co-management practices to operate successfully.

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6. Discussion

This dissertation has investigated the perceptions of different stakeholders with respect to the concept as well as the practice of co-management in four case study sites in KZN and the EC/WC. All four case studies have distinctive histories with the involvement of different stakeholder groups. In addition, each case study has faced its own unique set of challenges and thus the current status of co-management in these case studies also varies. In KZN, the co-management arrangements are functional, whereas the co-management arrangements in the EC/WC sites have recently collapsed. A review of the relevant literature has indicated that shared perceptions and understandings among stakeholders are key to creating effective co-management (Katon *et al.* 1997; Pomeroy *et al.* 2001). Thus, the aim of this research project has been to determine the different perceptions of the various stakeholders towards the concept of co-management, as well as their understanding of current co-management practices in the four chosen case studies. The findings identified the perceptions of the different stakeholder groups (focusing mainly on fishers and government officials), and then compared these perceptions to show similarities and/or differences between the groups and across the provinces. This chapter will discuss these similarities and differences in relation to the literature, and will delve into possible reasons as to *why* differences in perceptions exist.

6.1 Common Understanding of the Term Co-management

Nielsen *et al.* (2004) explain that although co-management has gained acceptance from various stakeholders worldwide, ‘the concept of co-management is not clearly defined and means very different things to different people’ (p. 152). However, in this research project, when stakeholders were asked to describe the term co-management, they defined the term in very similar ways. There is a broad agreement amongst the majority of stakeholders interviewed that co-management is “working together” or “a partnership between various stakeholders”. This common and basic understanding of the term co-management creates a much-needed basis to build effective management. Wondolleck and Yaffee (2000) express that if stakeholders have a common vision, it can lead stakeholders in a ‘collaborative initiative to imagine solutions to shared problems’ (p.

81). Furthermore, if there is a common understanding of the term, including recognition of the need to co-manage a valuable resource, then this would lead to certain optimism, which could ultimately build relationships, trust and faith that stakeholder groups can work together (Wondolleck & Yaffee 2000).

However, although it is important to start with a basic understanding of the concept, it is also essential that other understandings of co-management processes and activities be shared, or else this can lead to ineffective implementation, dissatisfaction, mistrust among stakeholders, and ultimately conflict. Research indicates that it is essential that stakeholders also have shared understandings of and attitudes towards the strategies of management (McClanahan *et al.* 2005; Broad & Sanchirico 2008; Hoehn 2009). Unfortunately, as the findings of this project show, stakeholders have very different understandings of what “working together” implies in terms of setting objectives, deriving benefits, making decisions and communicating with one another.

6.2 Factors Affecting Different Perceptions, Practices and Outcomes of Co-management

Berkes *et al.* (2001) assert the importance of clarifying the purpose and objectives of co-management, as well as the style, decision-making processes, roles and responsibilities of different stakeholders involved in the co-management process. As mentioned previously, this study found that there is consistency among the respondents’ understanding of co-management as a partnership. However, Hara and Nielsen (2002) warn that ‘while the primary stakeholders in a co-management arrangement might share a broad common goal – this commonality might not be explicitly reflected in the way co-management might be viewed as a strategy for achieving such a goal’ (p. 5). Stakeholders might have a common understanding that co-management should be a partnership among the various stakeholder groups, but their perceptions about the nature of the partnership or how to achieve such a partnership, can vary significantly.

During the analysis of the findings, certain differences surfaced. First, there are differences between the perceptions of fishers and government officials with respect to the concept and practice of co-management. Second, there are considerable differences in the perceptions of the two primary stakeholder groups (fishers and government) from the different regions – KZN and EC/WC. This section discusses these various inconsistencies and the possible factors that may be influencing the different perceptions.

6.2.1 Different Understandings of Co-management Objectives and Benefits between Fishers and Government Officials

All stakeholders were asked to describe their understanding of the objectives, benefits, activities and processes of co-management, both in terms of the concept and practice of co-management. Perceptions were not only compared between the stakeholder groups, but also within the stakeholder groups. In particular, differences between stakeholders' conceptual understanding and their practical experience of co-management were analysed. The purpose of this was to understand how people's understanding of co-management in theory is being translated into co-management practice on the ground. Findings from this research project indicated that overall the co-management objectives identified in practice in the four case studies match more closely to government officials' perceived objectives than fishers' perceived objectives (Figures 23 – 26)⁵. Thus, it is the government officials' (both KZN and MCM) perceived objectives that seem to be implemented in practice. Hara and Nielsen (2002) suggest that often government officials in Africa perceive co-management as 'an alternative strategy to pursue the same old conservation objectives' (p. 9). The results of this research project support the notion that biological sustainability remains one of the primary goals for both KZN and MCM officials (Figures 25 & 26). However, the government officials' overriding focus on sustainable resource management is understandable given that sustainable resource use is their mandate. This focus on sustainable resource management is likely to be the case if government is driving the process, and many co-management arrangements worldwide are government driven (Nielsen *et al.* 2004). However, the problem is not in the nature of the objectives (since some fishers also recognise the need for sustainable practices), but

⁵ All figures referred to in this chapter are found in Chapter 5 (Findings).

rather that there is not a common and clear understanding of the objectives and direction of the management strategies among all the stakeholders (McConney & Charles 2008). In this case, the problem arises when the government objectives are being prioritised over the needs and desires of the resource users.

According to findings from a review and analysis of nine co-management projects in South Africa, Sowman *et al.* (2003) found that in many of these co-management arrangements project objectives were not jointly agreed upon or supported by the various stakeholders, and as a result there were various conflicting expectations of co-management. This research has shown that in Swartkops and Ebenhaeser, there are significant differences between the fishers' and government officials' perceptions of both the concept and practice of co-management. This lack of shared perceptions is largely due to the collapse of the co-management arrangements at both sites – since government began taking decisions without consulting the fishers. In turn, this led to a break down of trust and a questioning of the purpose of the meetings and other efforts to maintain the co-management arrangements.

This is contrary to the basic conditions of co-management (as discussed in the literature review), and it is argued that joint management of small-scale fisheries requires the consideration of the many different perspectives of the stakeholders involved (Berkes 2003). Carlos and Pomeroy (1996) assert that the stakeholders participating in co-management must acknowledge and share each other's understandings and expectations of the arrangement from the beginning. However, Pomeroy *et al.* (2001) explain that one of the primary reasons for failure of co-management arrangements in the Philippines was the continuation of a top-down approach, since this approach did not allow for other stakeholders to understand the objectives for initiating co-management. According to the majority of the fishers interviewed, this top-down approach to management is what "co-management" has become in the cases of Swartkops and Ebenhaeser, and as a result, government and fishers do not have a common understanding of co-management. According to McClanahan *et al.* (2005), if government officials do not recognise the

different perceptions and understandings of the fishers, this can easily prevent improvements from ever being made to the management system.

Although there are differences in perceptions between government officials and fishers in both regions, findings also suggest that there are differences in the amount of shared perceptions between the two regions studied. In particular, findings suggest that overall the fishers and government officials in KZN have similar perceptions with respect to co-management theory and practice by comparison to the fishers and government officials of the EC/WC. For example, in KZN, both fishers and government officials believe that biological sustainability is and should be an objective of co-management. Whereas in the EC/WC, only government officials mentioned biological sustainability as an objective of co-management. This objective was not mentioned by any fishers interviewed in the EC/WC. This next section will delve into factors that could possibly be influencing the amount of shared perceptions among stakeholders, as well as the co-management processes and outcomes between the two regions.

6.2.2 Institutional Influences on Perceptions, Processes and Outcomes – Differences between KZN and the EC/WC

Although research has indicated that shared perceptions among stakeholders increases the effectiveness of co-management, Pomeroy *et al.* (2001) also explain that if co-management arrangements are to be functional, the first basic steps required are the establishment of policies, legislation, rights and authority structures to support co-management. In other words, the first step to creating an effective co-management arrangement is to organise the institutional arrangements to support co-management (Noble 2000; Jentoft 2000). Further, the role of government in creating legitimacy for institutional arrangements is thus crucial (Pomeroy & Berkes 1997).

As discussed in Chapter 4 (Case Studies), the co-management arrangements in the case study sites in KZN and the EC/WC have had very different stakeholder and government involvement, and thus have had very different institutional arrangements. Nielsen *et al.* (2004) explain that the concept of co-management has been adopted by a wide range of institutional arrangements (often with little in common) and thus adapted to fit various

situations. Findings of this project show regional diversity in perceptions, which has indicated that this diversity may be related to institutional structure. In this section, the institutional organisation of each region will be explored and examined (using a framework from Nielsen *et al.* 2004) to decipher what sort of institutional approach each case study site and region has adopted. Subsequently, the different institutional approaches will also be examined in terms of how they have led to different or shared perceptions among stakeholders.

6.2.2.1 *The EC/WC – An Instrumental (Top-Down) Co-management Approach*

The current management activities at both Ebenhaeser and Swartkops, and findings from this research project suggest that institutionally, co-management has been instrumentally implemented and since withdrawal of external agents that were facilitating government and fisher interactions, there has been a return to a top-down approach.

In Ebenhaeser, although the initial co-management arrangements with CNC were functional, and efforts to establish co-management arrangements with MCM soon after they became the responsible agency for fisheries management in 1998, led to discussions between fishers and government regarding a permit system for the fishers (Sowman 2009), these discussions fell short of co-management requirements. In general, MCM has continuously taken decisions without consulting the fishers especially in relation to the internal policy to phase out gillnet fishing in the estuary and the recent endorsement of the draft Olifants Estuary Management Plan. This approach suggests that ‘co-management’ in this situation continues to be “top-down” (Sowman 2009). Likewise, in Swartkops, MCM (both Cape Town and Port Elizabeth officials) initially participated in co-management meetings and discussions with the various stakeholder groups (including the bait collectors, Zwartkops Trust, the Nelson Mandela Bay Municipality, etc) (Zungu 2008). However, in 2007, MCM took a precautionary approach to co-management and decisions were largely taken in Cape Town without other stakeholder consultation (EEU 2008). Thus, although this co-management arrangement began with a partnership

amongst the stakeholders, it has subsequently deteriorated and presently can also be characterised as a top-down arrangement.

This type of management approach has been defined as “instrumental co-management” (Nielsen *et al.* 2004), where stakeholder involvement is limited to the implementation process but ceases afterwards. In addition to this, “instrumental co-management” is also characterised by a lack of stakeholder involvement in setting objectives and determining what knowledge to include in the process (Nielsen *et al.* 2004). Interestingly, at both case study sites, MCM has continued to rely on “scientific knowledge” and has been largely disinterested in local or traditional knowledge of the fishers. Furthermore, although both sites have had monitoring systems in place in order to obtain data on the status of the resources, MCM continues to question the accuracy of this data (especially in the case of Ebenhaeser) (Sowman 2003). Hara and Nielsen (2003) explain that the use of scientific knowledge to inform management decisions is rarely explained to the fishers, which continues to be the case at both sites. Furthermore, the process of setting objectives for management at both Ebenhaeser and Swartkops was not participatory and largely determined by MCM. As a result, (and not surprisingly), the findings from this research project show that MCM government officials and fishers from Swartkops and Ebenhaeser have very different perceptions in terms of objectives (both in concept and in practice) as well as very different perceptions concerning management means and outcomes.

There have been very few examples of successful “instrumental co-management” approaches worldwide (Hara & Nielsen 2003; Nielsen *et al.* 2004). This is reiterated in Ebenhaeser and Swartkops, where the co-management arrangements are currently not functional.

6.2.2.2 KZN – Moving Towards an Empowered Co-management Approach

This research indicates that the co-management arrangements at both Mfazazana and Nonoti, although not without challenges, are moving towards an “empowered co-management” approach.

In addition to involving stakeholders during the implementation process, Nielsen *et al.* (2004) describe other characteristics of “empowered co-management” as: 1) capacity building at multiple levels for both government and fishers, 2) major restructuring of institutional arrangements supporting co-management, 3) a change in knowledge base, and 4) a change in stakeholders’ attitudes towards their role in the arrangement (Nielsen *et al.* 2004). The co-management arrangements in KZN reflect these characteristics; training workshops have been held for the various stakeholders involved in co-management (both officials and fishers) (EKZNW 2010a), a new institutional organisation (the SFIU) and an implementation policy have been created in order to implement co-management within the province (EKZNW 2001) and monthly meetings have been set-up to ensure that fishers and officials can share their knowledge with one another and clarify roles and responsibilities (EKZNW 2001; EKZNW 2010a).

Another key characteristic of “empowered co-management” is that stakeholders are involved in setting objectives ‘on equal terms with government’ (Nielsen *et al.* 2004, p. 155). By doing so, socio-economic considerations are more likely to play a greater role. Findings from this research project have shown that government officials and fishers from KZN have a closer understanding of co-management objectives than the stakeholders in the EC/WC. Furthermore, findings illustrate that government officials are beginning to consider socio-economic matters. For example, in terms of perceptions of fisher benefits (in concept), 63% of KZN government officials believe that fishers should benefit from co-management (Figures 5, 6). However, although government officials are starting to recognise socio-economic needs in concept, to date there are very few objectives that have yet to address this need in practice.

Although overall there are differing perceptions between fishers and government officials concerning co-management objectives, in KZN there is recognition of these objectives (both biological and socio-economic) by both stakeholder groups and an acknowledgement that both are important objectives for co-management. This therefore

highlights a shared understanding and a need to understand and incorporate the different needs of stakeholders into co-management objectives in order to achieve agreed objectives and a common understanding of the goals of the co-management process. Thus, even though these arrangements have faced challenges, findings suggest that they are moving towards an empowered co-management approach, which will ‘improve the efficacy of fisheries management in small-scale fisheries’ (Nielsen *et al.* 2004, p. 155).

6.2.2.3 How Different Institutional Approaches lead to Different Perceptions

This research project indicates that the two regions – the EC/WC and KZN – have different institutional approaches in terms of co-management. The former region continues with an “instrumental co-management” approach (which has reverted to a top-down approach), whereas the latter region is moving towards an “empowered co-management” approach. The previous section briefly described these two approaches and how they can influence the effectiveness of co-management. However, this next section will delve into the motivations behind these two institutional approaches (in context to the four case studies and two regions) and ultimately how an evolution of different approaches has led to limiting or promoting shared understandings and perceptions among stakeholders.

6.2.2.3.1 Devolution in KZN versus Decentralisation/Centralisation in the EC/WC

In order for government to create a platform for effective co-management, legitimate and accountable institutional arrangements need to be created in order to define power sharing and decision-making (Pomeroy & Berkes 1997). However, Pomeroy and Berkes (1997) also argue that it is not enough for governments to solely call for more community involvement and participation; governments must also decentralise some of its power. These authors further explain that there are different types of decentralisation, which can be illustrated in the two regions of this research project.

In the EC/WC, MCM continues to be the managing authority for co-management arrangements within these provinces. Although MCM is a national authority, it has decentralised some of its functions to regional districts. For example, there is a regional

MCM office based in Port Elizabeth, which has certain responsibilities (mainly enforcement) and has been involved in the co-management arrangement in Swartkops. Pomeroy and Berkes (1997) describe this type of decentralisation as “administrative decentralisation” in which authority and responsibility is transferred from national government to regional offices. However, although these regional offices may have authority for certain responsibilities (such as monitoring and evaluation), approval must first come from the national government. This type of decentralisation (of functions) is illustrated in the co-management arrangements of Swartkops and Ebenhaeser. Although there are regional MCM officials involved in co-management, the decision-making power remains largely in the hands of those MCM officials based in Cape Town.

Conversely, in KZN, the provincial authority EKZNW is the primary authority in managing co-management arrangements within the province. This type of decentralisation is referred to as “devolution” – in which power and responsibility is transferred to regional governments without reference back to national government (Pomeroy & Berkes 1997). In addition, although there is reference back to national government with regard to the permit system, the way co-management arrangements are planned, developed, implemented, monitored and evaluated remains the responsibility of EKZNW (Harris *et al.* 2007; EKZNW 2010a).

So how does decentralisation versus devolution create a difference in co-management operation and outcomes and thus a difference in shared understandings among stakeholders? First, there are many examples of successful co-management arrangements worldwide (Canada, Japan, Norway, Philippines) in which power has been devolved to regional and local governments (Jentoft 1989; Lim *et al.* 1995; Katon *et al.* 1997; Pomeroy & Berkes 1997); but there are few examples of successful co-management arrangements when power is decentralised (Pomeroy & Berkes 1997). Noble (2000) explains that a smaller governing authority allows for more effective management practice since this authority will have a local/regional mandate. In South Africa specifically, communities are much more willing to engage with local government

officials (Sowman *et al.* 2003). Although EKZNW officials are provincial (not local), many of the extension officers (facilitators of the SFIU) are from the respective fishing communities and are based in areas of the province in which they have easy access to their designated communities.

Devolution of certain powers to the provincial authority in KZN has also allowed EKZNW to create its own implementation policy for co-management. Pomeroy and Berkes (1997) state that policies supporting co-management are a necessity for effective co-management. Policies and legislation should build a foundation for co-management arrangements so that all stakeholders have a 'clear and shared direction' towards management (McConney & Charles 2008, p.18). The implementation policy in KZN (finalised in 2001) covers a variety of co-management procedures, such as identifying small-scale fisheries, establishing contact with the fishers, forming local co-management structures, and holding workshops with the communities and officials on various topics pertaining to co-management (EKZNW 2001). This implementation policy also outlines the importance of creating legitimate local co-management structures – in which a committee (including government and fisher representatives) makes joint decisions regarding a multitude of co-management issues and activities at the local level (see Harris *et al.* 2003). This joint decision-making allows the fishers' views and perceptions to be shared on equal terms with the government (Harris *et al.* 2003), which ultimately strengthens the fishers' commitment to the process (Wilson 2003). Furthermore, this devolution to the provincial authority and the formation of local structures follows the recommendations of the SFTG in South Africa, which suggested that top-down approaches are not suitable for small-scale fisheries, but rather that power should be devolved to provincial agencies wherever possible and local co-management structures should be encouraged (Harris *et al.* 2002).

On the other hand, MCM has been reluctant to transfer power to other levels of government, and this reluctance has been the cause of many challenges that co-management arrangements face in South Africa (Sowman *et al.* 2003). In particular,

Castro and Nielsen (2001) explain that many central government agencies are reluctant to commit to co-management because they perceive conservation as the ultimate objective, and by entering into a co-management arrangement, they may be restricting their ability to achieve this objective. Interestingly, findings from this research project support this notion as “sustainable management” was the most common response by both KZN and MCM officials in terms of their perceptions of objectives (both in concept and in practice) (Figures 25, 26). Likewise, the most common response of MCM officials in terms of how they believe fishers will benefit from co-management is by an “improvement in the health of resources” (Figure 18).

However, a key difference between the two regions is that KZN fishers *also* perceived “sustainable management” and “health of resources” as an objective of co-management (in concept and in practice) and a benefit (in concept) (Figures 23, 17), while no fishers from the EC/WC considered this to be an objective nor a benefit (Figures 24, 17). These findings suggest that although “sustainable management” is part of the mandate of both EKZWN and MCM, EKZWN uses co-management as a way to promote shared objectives, whereas MCM may be using co-management as an alternative way to push ‘the same old conservation objectives’ (Hara & Nielsen 2003, p. 87). In addition, fishing communities in the EC/WC have limited access to the MCM officials since many of the officials involved in co-management are based in Cape Town (Sowman *et al.* 2003). Thus, interaction between government and fishers in the EC/WC are largely on the government’s terms. Thus, if MCM do not interact, then perceptions and understandings cannot be shared, and fishers will be left frustrated.

6.2.2.3.2 “Champion” for Co-management – Position and Longevity

Sowman *et al.* (2003) suggest that often in a co-management arrangement a “champion” is responsible for initiating and sustaining the process. In particular, these authors indicate that a project “champion” is one or two role players that motivate stakeholders, encourage commitment, provide support and facilitate communication between the stakeholder groups. Past research indicates that “champions” can be part of the community, government department, NGO or academic institution, as long as they have

means and resources to facilitate such processes (Noble 2000; Sowman *et al.* 2003). However, experiences from the co-management arrangements of this research project suggest that there are other factors that can influence the effectiveness of a “champion”, and ultimately influence the ability to create shared perceptions among the primary stakeholders.

Firstly, although there was co-management “champions” in all four case study sites at some point, the position of this “champion” differed between the two regions. In KZN specifically, there was one senior individual in government – who drove the initial co-management arrangements in Sokhulu during the 1990s, with support from EKZNW, and thus this champion had the authority to make decisions through her direct interaction with the fishers (Harris *et al.* 2003; Sowman *et al.* 2003). On the other hand, in the EC/WC, the EEU acted as the “champion” and was largely responsible for facilitating co-management discussion between the stakeholders and providing pressure to continue the co-management process. However, the EEU was predominantly lobbying for co-management, and did not have the power to make decisions, and thus their influence on the practice of co-management (and the interaction between government and fishers) was limited.

Secondly, the longevity of the “champion’s” involvement in the co-management arrangements in the two regions also differs. Hauck and Sowman (2001) indicate that many co-management initiatives in South Africa have been driven by external agents outside the government, which has resulted in the lack of support from government. In the EC/WC, the EEU was heavily involved during the planning and implementation processes of co-management at both Swartkops and Ebenhaeser (Sowman *et al.* 2003; Hasler & Munro 2007; Zungu 2008). Furthermore, both co-management arrangements also had outside funding by the NORSA partnership program. However, these facilitating organisations stepped back shortly after implementation due to limited funding, which coincided with a lack of commitment by government to engage in the co-management processes. Research warns that a community should not be dependent on a single leader

or outside agent, since often co-management arrangements will fail after the departure of these leaders/agents (Pomeroy *et al.* 2001). Unfortunately, in developing countries co-management is frequently supported by donor-funded projects with limited funds and short timeframes, which present a major challenge for creating long-term co-management arrangements (Hara 2003). Although the EEU focused attention on building capacity of stakeholders in their initial years of involvement, so that co-management could be sustained (Hasler & Munro 2007), MCM did not have a long-term plan for these co-management arrangements. As a result, the arrangements and monitoring systems faltered, meetings ceased and communication became limited between the stakeholder groups.

Instead, research has indicated that locally recruited and trained leaders can act as a force to mobilise co-management (Pomeroy *et al.* 1996; Katon *et al.* 1997), or in other words, can act as a “champion” for co-management. In KZN, the initial “champion” continues to work within EKZNW and closely with the co-management activities within the province. However, due to the new implementation policy and institutional set-up, local people (now employed by the SFIU) have been recruited and trained to act as champions for co-management at the local level. Napier *et al.* (2005) encourage the need to have champions of co-management at the local level as ‘champions seldom work well from a distance’ (p. 175). Furthermore, Pinkerton (1989) and Noble (2000) suggest that management can be more effective when a representative of the governing authority can act as an appeal body for local questions and issues. In this instance in KZN, the “champions” have acted both as facilitators and representatives of the governing authority.

Research has also indicated that communication is a vital component in ensuring shared perceptions among stakeholders and creating effective management (Jentoft 2000; Noble 2000; Wondolleck & Yaffee 2000; Harris *et al.* 2003; Su & Cervantes 2008). One of the primary objectives of a champion of co-management is to encourage participation and communication amongst all stakeholders (Sowman *et al.* 2003). However, findings from

this research project suggest that long-term champions that are affiliated to government agencies can also act as government representatives at the local level and are more effective in promoting communication and thus creating shared perceptions among stakeholders.

6.2.2.3.3 Institutional Support for Communication, Participation and Empowerment

Continuous communication can create shared understandings and agreement among stakeholders (Harris *et al.* 2003; Jentoft 2003). Even so, it is also essential that this communication is a “two-way street” (rather than the government informing the fishers of their perceptions and interests), since managing a small-scale fishery requires the consideration of the different perspectives of all stakeholders (Noble 2000; Berkes 2003; McConney & Charles 2008). Empowerment can give stakeholders the competence and confidence to participate in co-management, and create a more equal playing ground (Thompson *et al.* 1999). The more participation that occurs, the more individuals will learn ‘how to argue, how to listen to and respect other opinions, how to work out compromises and a consensus’ (Jentoft 2005, p. 5). In other words, empowerment will lead to more effective participation, which will in turn create a platform for opinions, interests, understandings and perceptions to be shared. However, many authors express that it is essential that co-management institutions support this platform so that stakeholders are genuinely empowered to participate (Jentoft 2000; Noble 2000; Hara & Nielsen 2002). In this section, the two regions will be evaluated based on the institutional support for communication and empowerment, and how this has influenced their perceptions of co-management.

In the EC/WC, the EEU was chiefly responsible for empowering fishers by facilitating awareness and capacity development programs (Sowman 2003; Kariem 2005). Hara and Nielsen (2003) explain that when governments implement co-management instrumentally, empowerment of the fishing communities does not occur. Although being empowered has created confidence amongst the fishers and enabled them to voice their opinions and take initiative (especially in Ebenhaeser – Sowman 2003), fisher

participation in the overall co-management process has been limited due to the lack of support from the current institutional approach in the EC/WC. Co-management institutions should create a place for communication and deliberation on procedures and objectives of co-management (Jentoft 2000), but a top-down approach does not make room for this. In both Swartkops and Ebenhaeser, since regular meetings no longer occur, there is no platform for fishers to express their interests and opinions to the government, even though they may have the confidence to do so. Instead, since 'incentives for co-operation are primarily on the side of government, fishing communities have realised that they continue to be recipients of instructions' (Hara & Nielsen 2002, p. 89). This is occurring in both Ebenhaeser and Swartkops, and as a result, communication has reverted to a "one-way street".

In KZN, stakeholder empowerment is supported by EKZNW and by the co-management implementation policy (EKZNW 2001). Furthermore, stakeholder empowerment involves both fishers and government officials, and is facilitated through activities such as workshops and training courses pertaining to basic ecology, co-management principles and operational procedures (EKZNW 2001). Harris *et al.* (2003) describe that in their experience in Sokhulu, providing the harvesters with scientific information through formal training courses proved to be a valuable aspect of the co-management arrangement. In doing so, the harvesters were able to gain a better understanding of the biology of the resource and the need to sustain it (Harris *et al.* 2003). Through this process, harvesters were then able to share their understandings with other people of the community. This information exchange also allowed for transparency on the government's part, so that harvesters could acknowledge and trust the government reasons for having "sustainable management" as an objective of co-management. This process of empowerment is evident at the case studies of Mfazazana and Nonoti, and findings of this research project reinforce that fishers are adopting similar perceptions towards "sustainable management". Nevertheless, Hara and Nielsen (2002) warn that 'unless users are genuinely allowed and empowered to participate in the setting of management objectives on *equal* terms with government, co-management cannot really be considered as a serious institutional innovation' (p. 13). However, as previously

mentioned, this process of adopting shared perceptions in KZN is not only driven by government. Findings from this research project suggest that government officials in KZN are also beginning to acknowledge and adopt some of the perceptions of the fishers (such as the need for economic benefits). Jentoft (2005) explains that empowerment is a progressive process. And although there continues to be some different perceptions among the fishers and government officials, findings suggest that co-management at both Mfazazana and Nonoti is currently in the process of creating a more equal playing ground for perceptions to be shared.

Empowerment allows for stakeholders to gain the skills and confidence needed to communicate and participate effectively in a co-management arrangement. However, empowerment alone is not sufficient. Institutional arrangements must also provide the support and space for this communication and participation to occur. The findings also suggest that while KZN is moving towards an empowered institutional approach that provides support for communication and participation, the top-down approach in the EC/WC has restricted it, which has ultimately influenced the extent to which perceptions are shared amongst stakeholders.

6.3 Perceptions with respect to Co-management as a Preferred Management Approach

Possibly one of the most interesting findings of this research project is the optimism of different stakeholders towards co-management. Although perceptions with respect to co-management objectives, benefits, operational success, communication, and decision-making differ among the stakeholder groups and between the two regions, almost all stakeholders believed that co-management is the most appropriate management approach for their respective area. Each stakeholder was quick to state current flaws in the current co-management system, but were optimistic that if amendments were made, co-management had the potential to be an effective approach.

Nielsen *et al.* (2004) explain that over the last decade and a half, the concept of co-management has gained increasing acceptance from researchers, development agencies and governments. Although some of the stakeholders interviewed (mainly fishers from the EC/WC) were dissatisfied with current communication, the decision-making process and the overall practice of co-management (largely because they were not involved), these stakeholders still perceived co-management as the most appropriate approach. Some of these same stakeholders expressed that they are disillusioned with current conventional approaches, however, explained their support of *concept* of co-management (communication, involvement, and partnership) as highly promising. Overall, the small-scale fishers of this project, who have historically been marginalised, are hopeful for a management approach that not only involves them in certain responsibilities, but also considers their knowledge, opinions and understandings equally in the decision-making process.

Conversely, as Hara and Nielsen (2003) describe, government officials can sometimes view co-management as an alternative approach to work towards conventional conservation objectives, especially when co-management is government driven. Although this could be the reason for South Africa's government officials' optimism towards co-management, more and more they are realising that other stakeholders' opinions cannot be ignored. Furthermore, since the South African Constitution (1996) and other national legislation supports the right for stakeholders to participate in management that affects them, ignoring these affected stakeholders (such as the fishers) is no longer an option. As Loucks *et al.* (2003) elucidate, the concept of co-management stems from the idea of democracy. It thus appears that this notion of democracy is what attracts the various stakeholders to the concept of co-management.

However, no matter what the reason behind stakeholders' support for co-management, what is pivotal is that there is support. Although practically there are challenges facing the co-management arrangements, and in some cases the co-management arrangements are completely non-functional, widespread support for the concept of co-management

indicates some commitment to this management approach. However, if such a commitment is in fact in place, the institutional arrangements need to be developed in order for all stakeholders to commit to co-management in practice.

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7. Conclusions and Recommendations

7.1 Overview of the Research

The overall aim of this research was to gain an understanding of the various perceptions of stakeholders towards co-management theory and practice, and ascertain the extent to which these perceptions differed within and across stakeholder groups and study sites in South Africa. Further, the factors that are influencing different perceptions of co-management were also explored. In order to achieve this aim, a number of steps were undertaken to conduct the research.

First, a review of the literature highlighted that not only is it important that natural resource management include the involvement of various stakeholders, but that shared perceptions among stakeholders can improve relations and create more effective site-specific management (McClanahan *et al.* 2005; Alexander 2008; Su & Cervantes 2008; Hoehn 2009). Thus, researchers have pushed for the adoption of an alternative multi-perspective approach to resource management, especially in the management of small-scales fisheries (Berkes 2003; McConney & Charles 2008). In particular, co-management has gained increasing support in the literature as an alternative approach (Jentoft 1989; Pinkerton 1989; Berkes 1994; Pomeroy & Berkes 1997; Berkes *et al.*, 2001), which moves management towards a people-centred approach and ‘closer to the reality of fisheries and fishers’ (McConney & Charles 2008, p. 6).

Although the concept of co-management is well documented in the literature, in practice co-management arrangements worldwide continue to face similar challenges. In particular, many of these challenges have the underlying notion that stakeholders do not share the same perceptions and understandings of co-management, specifically related to objectives and benefits, power-sharing, decision-making and knowledge exchange (Ostrom 1994; Borini-Feyerabend 1996; Katon *et al.* 1997; Pomeroy *et al.* 2001; Hara & Nielse 2002; Sowman *et al.* 2003). These differences in perceptions can often lead to

conflict and mistrust, and can ultimately undermine the co-management partnerships (Thomspon *et al.* 1999; McClanahan *et al.* 2005).

However, the literature review also revealed that there is little research that explores how perceptions of stakeholders to co-management can influence co-management practices on the ground, and how different institutional approaches can influence how perceptions are formed and shared. Thus, this research project was designed to contribute to this gap in knowledge. Four case studies were therefore chosen across South Africa to represent both national-driven and provincial-driven co-management arrangements in order for comparisons to be made between different spheres of government and different institutions. Stakeholders involved in each case study were then identified and interviewed to determine the different perceptions towards co-management theory and practice. Finally, these perceptions were compared and contrasted across the stakeholder groups to determine differences, and possible factors for these differing perceptions were identified.

7.2 Summary of Findings

Results from this research project were divided into two sections: perceptions of the concept of co-management and perceptions of co-management practice and experiences. Each section explored the stakeholders' understandings of co-management objectives, benefits, processes and outcomes. In addition, the findings outlined stakeholders' general understanding of co-management and whether they believed it to be the best management approach. Three key findings were highlighted.

First, the majority of the stakeholders had a very similar understanding of the term co-management, using such words as 'working together', partnership, participation and communication to describe the term. This finding suggests that the concept of co-management is shared among stakeholders across the country. However, although this shared understanding should provide a solid basis from which co-management can be

built, the findings suggest that there are different understandings of what a co-management partnership entails.

Second, there are two main differences in perceptions amongst stakeholders with respect to the concept and practice of co-management, which can be outlined in two key themes. The first theme is that overall there are differences between fishers and government in terms of their perceptions of the objectives and benefits of co-management. Findings indicate that the co-management objectives identified in practice in the four case studies match more closely to government officials' perceived objectives than fishers' perceived objectives. However, the problem is not in the nature of the objectives, but whether government objectives are being prioritised over the needs and desires of the resource users. This is the case in Ebenhaeser and Swartkops, for example, where top-down decision-making continues to take place.

Although there are differences in perceptions between government officials and fishers in both regions (i.e. KZN and EC/WC), findings also suggest that these differences are more pronounced in the EC/WC. Findings indicate that stakeholders in KZN appear to share many similar perceptions about co-management by comparison to the EC/WC counterparts. A review of the current co-management arrangements at each case study also suggest that institutionally, co-management in KZN is moving towards an empowered approach, whereas in the EC/WC co-management has been implemented instrumentally and has since reverted back to a top-down approach. A review of the institutional approaches adopted in the two regions has highlighted three main factors that have influenced perceptions among stakeholders. The first is the difference between the devolution of power in KZN versus the decentralisation of functions in the EC/WC. Devolution of power to the provincial authority has allowed EKZNW to create its own co-management implementation policy and regional mandate. Furthermore, local co-management structures were developed in order for decision-making power to be further devolved to the local level. This created greater interaction between government and fishers. On the other hand, decentralisation (of functions only) in the EC/WC created a

situation where stakeholder interaction was largely dependent on national government, with Cape Town officials seen as inaccessible to many fishers, and the decision-making power lying solely in the hands of the government. Furthermore, due to MCM's unwillingness to interact closely with fishers, meetings and thus communication were infrequent, or ceased altogether.

The second factor relates to the position and longevity of the "champions" involved in the four case studies. In KZN, champions of co-management have been affiliated with the governing agency EKZNW and thus act as a government representative at the local level. Furthermore, these champions have been in place long-term, which has allowed them to continuously support the process of co-management. However, in the EC/WC, champions were agents external to the national government, and were largely reliant on external funding with shorter time frames. Thus, once their involvement came to an end, MCM did not have a long-term plan for co-management to be implemented and thus interactions ceased.

The third factor that influences perceptions and promotes a common understanding relates to the institutional support for participation and empowerment in the co-management arrangement. Empowerment is essential to create an equal playing ground for fishers and government to co-manage a resource (Nielsen *et al.* 2004). However, if the institutional approach does not support empowerment, then communication will cease. The institutional approach in KZN has allowed for fishers to acquire competences and confidence to participate in co-management. In the EC/WC, although fishers participated in capacity development initiatives and acquired knowledge and skills by outside agents, the top-down approach did not support fisher participation and thus understandings could not be shared between stakeholders.

Finally, the third key finding of this research is that despite differences in perceptions, almost all stakeholders believed co-management to be the best approach. This suggests

that although some of the co-management arrangements of this study have collapsed, the stakeholders remain optimistic towards the *concept* of co-management. This support could be attributed to three key reasons. First, many fishers (especially from Ebenhaeser and Swartkops) have become disillusioned with conventional approaches that don't respect and include fishers' views. Also, co-management is based on the notion of democracy (Loucks *et al.* 2003), which for all previously marginalised fishers, is a promising notion. Finally, both fishers and government are becoming aware of the fishers rights to be consulted, which is articulated in national law, and thus co-management is an approach that addresses these rights.

7.3 Recommendations

The comparison of perceptions towards co-management reveals differences between stakeholder groups and between management systems. Findings also suggest that institutional arrangements can influence the extent to which stakeholders share similar perceptions. The following section provides some recommendations that were derived from the findings of this project.

7.3.1 Recognizing and clarifying perceptions during the initial steps of co-management

Much confusion during the co-management process can be addressed if different understandings among stakeholders are identified early and incorporated into management practices (Katon *et al.* 1997; Pomeroy *et al.* 2001; Broad & Sanchirico 2008; Su & Cervantes 2008). Formal agreements can help to clarify the different perceptions early on, and can create a sound foundation for equal incorporation of participation (Pinkerton 1989). Understanding the range of different perceptions that exist amongst stakeholders can also act as a sort of educational workshop between stakeholders. For example, sharing each others' perceptions of benefits (such as short-term and long-term benefits) can allow for stakeholders to recognise a wider range benefits, which can boost their commitment to co-management.

7.3.2 Sharing perceptions throughout the co-management process

Local structures are often developed to allow a forum for open communication and dialogue among the stakeholders (Berkes *et al.* 2001; Pomeroy *et al.* 2001). However, it is essential that institutional arrangements support this communication, and also allows a forum to share the perceptions of the stakeholders. Although perceptions with respect to objectives, benefits and other co-management activities might be clarified during the initiation of the arrangement, perceptions may change over time, and therefore management practices must be flexible and adapt to changing ideas.

7.3.3 Devolving authority to levels of government closest to the fishers

As this research has displayed, in order for perceptions and understandings to be shared throughout the co-management process, it is essential that institutional arrangements are developed to support communication, participation and empowerment of the fishers (Noble 2000; Jentoft 2005). In particular, it is important that much of the decision-making power is devolved to the local level so that the authority has a local mandate (Noble 2000). Local mandates must also include a plan to develop the capacity of the fishers, which can create a confidence in fishers to become actively involved in co-management. Interestingly, research highlights that the most effective process of building capacity is when fishers are involved themselves in research activities (Sowman *et al.* 2003; Harris *et al.* 2003). Not surprisingly, when much of the decision-making power and co-management activities are devolved to the local level, fishers become more comfortable engaging with the local officials (Sowman *et al.* 2003). Thus this process can also encourage stakeholders to become comfortable expressing their perceptions and understandings to one another.

7.3.4 Understanding co-management as a process

Co-management has been described as a problem-solving process (Carlsson & Berkes 2005; Wilson *et al.* 2006; Nursey-Bray & Rist 2009). These authors argue that during the initial stages of co-management, power-sharing and equal participation can be difficult to achieve. What is important, though, is that a co-management arrangement aims to progress towards power-sharing and a participatory process, and that stakeholders

understand co-management as this progression. This progression, however, can only be accomplished if stakeholders move forward in concurrence with one another – and to accomplish this, stakeholders must share and understand one another's perceptions.

7.4 Conclusions

The overall aim of this study has been to identify stakeholders' perceptions towards various aspects of co-management (such as objectives, benefits, decision-making process and communication), and to ascertain the extent to which these perceptions differed within and across stakeholder groups and study sites. In addition, this study aimed to identify and discuss factors that are influencing perceptions, in order to inform management practice and enhance co-management arrangements.

This study has highlighted that even if stakeholders have a similar understanding of co-management as a partnership between government and resource users, often stakeholders have very different perceptions as to how this partnership should function. Where co-management is functional, this research indicates that stakeholders hold common perceptions. Where co-management has collapsed, perceptions differ more significantly. This suggests that shared perceptions with respect to the meaning and practice of co-management can be an important factor that can impede or facilitate the functionality of co-management in practice. Further, different institutional arrangements seem to influence the extent to which perceptions are shared between stakeholder groups in a co-management arrangement. Where perceptions are similar, institutional arrangements are more devolved. Pomeroy and Berkes (1997) explain that often devolution and co-management go hand-in-hand, as both can 'offer the promise of increased democratization and empowerment of regional and local communities' (p. 476). Furthermore, findings suggest that the institutional arrangements in KZN are moving towards an 'empowered co-management' approach. Nielsen *et al.* (2004) describe this approach as involving fishing communities on the same level as government, as well as encouraging the consideration of different knowledge systems.. Thus. resource users' perceptions and understandings are considered on equal terms with government.

One of the most important findings of this research project, however, is that despite conflicting perceptions of co-management, almost all of the stakeholders believe co-management to be the best approach for small-scale fisheries management. In other words, stakeholders are still supportive of the *concept* of co-management, and this suggests that ongoing efforts to develop and implement co-management as an alternative management approach in the small-scale fisheries sector in South Africa should be promoted. However, if this support of co-management is meaningful, it is essential that institutional arrangements are transformed in such a way that stakeholders can commit to co-management in *practice*.

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9. Appendices

9.1 Appendix A: Interview Questions

Questions Pertaining to the Concept of Co-management:

- 1) **What does the term co-management mean to you?**
 - a) **What are some of the key words (or principles) that you would use to describe co-management?**

- 2) **In your opinion, what are the objectives and desired outcomes of co-management, i.e. what is co-management trying to achieve?**

- 3) **Who do you think should benefit from a co-management approach? What are the kinds of benefits that would result from a co-management approach?**

- 4) **What do you think are the key reasons for initiating a co-management process?**

- 5) **If you were to initiate a co-management process, what are the key activities that you think are necessary?**

- 6) **In your opinion, who should be involved in a co-management arrangement? Are there relevant stakeholders other than government and community/fishers?**

- 7) **How should decisions be made in a co-management arrangement? For example, how are roles and responsibilities determined?**

- 8) **What kind of communication is needed among stakeholders to facilitate co-management?**

- 9) **In the decision making process, how should traditional practices and local rules be taken into consideration?**

- 10) What sort of institutions/structures, policies and/or programs do you believe should be in place in your community/organisation that facilitate a co-management approach? Elaborate.
- 11) Do you think a co-management arrangement could/should link with other socio-economic development in the area?
- 12) Do you think co-management is considered a workable/feasible management approach in SA? What do you think facilitates, or impedes, the implementation of co-management in SA?

Questions Pertaining to the Practice of Co-management:

- 1) What co-management initiative have you been, or are currently, involved in/or have knowledge of?
 - a) What is/was your role in this co-management initiative at (*case study*)?
- 2) What led to the initiation of the co-management process in (*case study*)?
 - a) What were the issues/factors that triggered the initiation of co-management (e.g. conflict, government policy etc.)?
 - b) What stakeholders were involved in the initial steps of the co-management process?
 - c) What was their involvement?
 - d) Who was responsible for driving the process?
- 3) What were key objectives and desired outcomes for this co-management arrangement?
- 4) How are/were decisions made?
 - a) How were the roles and responsibilities determined?
 - b) How are the rules made?
 - c) Are traditional practices and local rules taken into consideration in decision-making?
 - d) Who is responsible for enforcement?
 - e) Who gives the permits? Who decides how many permits are allowed?
 - f) Are you satisfied with how decisions are being made? Why or why not? What would you change?
- 5) What structures/policies/programs currently exist at (*case study*) that facilitate the co-management process?
 - a) Is there a co-management committee? Who sits on this committee?

- b) Is there a separate fisher organisation? If yes, why?
 - c) Do you (or other MCM/EKZNW members) engage with the co-management committee?
 - d) Are there other stakeholders/organisations that are involved with the co-management arrangement at (*case study*)? If yes, what role do they play?
 - e) What policies and/or programs guide the development and implementation of co-management in this province? Please elaborate.
- 6) Is the co-management arrangement at (*case study*) linked to any other socio-economic initiatives in the area? Elaborate.
- 7) What type of communication currently exists between the stakeholders of (*case study*)?
- a) How often do the government and other stakeholders have meetings together? Or: how often does the COM committee meet?
 - b) Who attends the meetings?
 - c) Do you (or a colleague in case of government) attend all/most of the meetings?
 - d) When was the last meeting and what were the key issues discussed?
 - e) Do you feel that there is adequate communication between the stakeholders?
- 8) Has there been any conflict in the past between the different stakeholder groups? How has it been addressed?
- 9) What have been the most significant benefits resulting from the co-management initiative in (*case study*)?
- a) How has the government partner benefited?
 - b) How have the fishers benefited?
 - c) Have other stakeholders benefited?
- 10) In your opinion, is co-management working well at (*case study*)?
- a) Have the desired outcomes been realised? Elaborate.
 - b) Do you believe co-management is the best approach for (*case study*)? Why or why not?
 - c) Can you give me an example of a co-management initiative that in your opinion has been successful in South Africa? Elaborate on why you think this is so.
 - d) Do you have any suggestions on how co-management could be improved at (*case study*)?

9.2 Appendix B: Respondents' Key Quotes

FISHERS:

Ebenhaeser:

EF1:

- *If done rightly it is a good thing. Government and fishers come together and walk the path together to move forward.*
- *Must be the fishers that benefit, but the government must also get their share.*
- *Rights of the fishers are dependent on the decisions of the government.*
- *When government makes a decision about a certain area, that area's committee should be present so to communicate the community's issues. Co-management can defend the community.*
- *Now decisions are told to the fishers (made without fishers involvement) – fishers are angry about this but don't know who to complain to. Before we had a channel between the fishers and the government.*
- *Can't remember the last time we met (co-management is only working on paper).*
- *There is no communication and I am not happy about it (there are so many issues to discuss). In the past when we were communicating with Cape Nature (Elby) it was a lot easier to get an answer quickly. We have never met with local MCM.*
- *Yes it is a very good approach because people working on their own is not good and it wouldn't work.*
- *We don't want to be above the government, but government needs to respect us.*

EF2:

- *It must benefit the fishers and the government*
- *The relevant stakeholders – the people who use the river and stay around the river and the government.*
- *In co-management we can deal with different opinions.*
- *Currently there is very little communication. Fishers and government within a co-management structure should have good (better) communication.*
- *In the past people have seen that co-management is the best way to speak with government.*
- *People don't understand their role in co-management so they don't participate.*
- *Can't say if the fishers were happy in the past but now the government is in control so there are no benefits for the fishers.*

EF3:

- *You have to manage something and drive it in a certain direction. The government doesn't take notice of fishers' issues. All partners should play their role in co-management.*

- *Members of the committee must be working with the government to address the issues and come to a solution together.*
- *There must be a channel (through the co-management structure) to communicate between the fishers and government.*
- *There must be laws and we must work within these laws.*
- *A big purpose was the research. UCT was here for months testing the fishing gear and paid the fishers.*
- *Fishers don't make any rules – it's the government!*
- *There is evidence that (co-management) could work.*

EF4:

- *Sitting together and discussing our issues, doing it collectively.*
- *I cannot benefit alone from co-management, it should be shared. It should benefit all the relevant stakeholders.*
- *Co-management is important, decisions cannot be made individually. There should be a 'head' organization that can facilitate this.*
- *People must be part of discussion so all people can make a decision that satisfies all.*
- *We don't catch a lot of fish, we are struggling and co-management must provide for the community.*
- *I am supportive of co-management but am not seeing results. Barriers – shortage of working together, there is not much trust within the community. People are often afraid to speak out.*
- *Decisions come from the government – made and told to the community.*
- *I am not satisfied – too many stumbling blocks and must be more power for the fishers in the decision-making process.*
- *I can't say right now yes or no. But I think it could work if there was better communication.*
- *The fishers don't benefit at all.*

EF5:

- *The government in Cape Town makes decisions and we are just told about the decisions.*
- *We get our livelihood from the river.*
- *The fishers and the government must both have decision-making power.*
- *We must be together, meet together and then relay information to others. Fishers must give input into decision-making.*
- *The knowledge we have is important so need to be considered when making decisions.*
- *Sometimes we receive information from the committee but we can't see the benefits. We complain so much but nothing is happening.*
- *Yes (co-management is the best approach) – in the beginning we saw a way forward.*

EF6:

- *We need to work together; the government is the centre of this, but now they just come and tell us what to do.*
- *The fishers must be part of co-management and participate in the decision-making process. Government must respect us.*
- *If we are not included then no benefits will come to us.*
- *We need to always respect the law and follow guidelines.*
- *Through our knowledge decisions should be made.*
- *There is only communication when the fishers go to the government, but even then the communication is not clear. The government ignores us.*
- *Co-management will/could/would work – but currently that is not the case. If we could work together then it could work.*

Mfazazana:

MF1:

- *Working together between workers and the communities and other members.*
- *Need to take decisions as a whole team of management. The co-management committee should decide the roles and responsibilities.*
- *The committee doesn't make final decisions but passes their ideas to the government.*
- *Some fishers have part time jobs. But the community would like more development ideas – ideas that need to be discussed with others.*
- *There are no benefits – unless the government fulfills our requests. There are no benefits for the government either.*
- *Co-management is the best approach because it has increased communication.*

MF2:

- *Working together – fishers, EKZN Wildlife and the SFIU staff.*
- *To organize the community members to work as a team to try and chase poverty.*
- *If the co-management committee can come to an agreement then a decision can be made.*
- *We need to communicate problems and relay these problems to the government.*
- *Things happen when people come down and sit together and talk.*
- *We need to sustain the marine resources for new generations.*
- *No, (co-management is not working well) because requests are not being met and people end up taking illegally.*
-

MF3:

- *Co-management is communication between the community and EKZN Wildlife, and sustainability of marine resources.*
- *Decisions should be taken by the committee.*
- *Meetings are important in order to raise issues to the government.*

- *Co-management is a good approach in KZN. Co-management allows for progress and it is the way forward.*
- *There was conflict and misunderstandings between the community and compliance staff. The community thought that the compliance staff was there to abuse them, and now understand that they are there to sustain resources.*
- *Yes it is the best approach but there needs to be more workshops so that the community can gain more knowledge.*

MF4:

- *Co-management is communicating with the community about how to sustain resources.*
- *All members should benefit by gaining knowledge. The government can benefit by having sustainable resources.*
- *Need to understand each other to make decisions. We should explore and share ideas, then come to a decision – the government and co-management committee together.*
- *Because the community was destroying marine resources – co-management allowed for people to gain knowledge.*
- *It is not easy for other members to understand other people's ideas and opinions.*
- *The community wants jobs and other opportunities but hasn't seen them. However, poaching has stopped.*
- *Yes (co-management is the best approach) because there is communication and more understanding among the people.*

MF5:

- *Compliance is watching the community to make sure no illegal activity is happening. They also make sure the people fish on their designated dates.*
- *The community can benefit if the managers keep their promises and fulfil requests.*
- *We need to take decisions in a good, respective manner.*
- *We are working together with the monitors and there is more respect.*
- *Yes (co-management is working) very well because marine resources are being watched.*
- *Nothing happens without co-management, people do not come together.*

MF6:

- *A group of people coming together and working as a team, for the community.*
- *The community and the committee, by gaining knowledge. The committee gains knowledge and then relays info to the community.*
- *The local council works with a committee, and the government needs to also come to the community to discuss changes.*
- *(Co-management) is a better way of communication. It is a way of communicating from the community level all the way up to the national level.*
- *Because the community was destroying marine resources. So co-management was implemented to teach the community about sustainable management.*

- *The co-management committee goes through the constitution and makes decisions together.*
- *Yes, (co-management is the best approach) because we are working together and there is communication.*

MF7:

- *Co-management is to develop my life in each and every way.*
- *All people who are part of co-management should make decisions.*
- *We need respect between people in the community and need to work together.*
- *We call a meeting; ideas are shared and then in the end come up with one decision.*
- *I am satisfied with the government decisions **BUT** not satisfied with the lack of response to the community's requests.*
- *I am happy, but not too much. The government wants the community to respect the rules, but the government is not respecting the community's requests.*
- *Marine resources are being protected when the monitors are around. But when the monitors are not around, the resources are not protected.*

Nonoti:

NF1:

- *Working together is very important to have success.*
- *Community should benefit since we are getting free permits. The government benefits because the community is now managing the resource.*
- *Consult and discuss and come out with a final decision.*
- *Hold meetings where people can come with different ideas and come to a decision.*
- *Working together is very important and different opinions are put in place so that we can make better decisions.*
- *Yes (co-management is the best approach) because there is more control and before they regarded us as poachers.*

NF2:

- *Co-management is when an idea is shared and we come to a decision together.*
- *The community should benefit so that our future generations can also collect marine resources.*
- *The government felt shame because people were being chased away from marine resources so they started this program.*
- *We would be very happy if there could be another alternative livelihood.*
- *I am very happy – there is good communication between the community and the government.*

NF3:

- *It is very important to work together.*
- *The committee discusses in the meetings and makes a decision.*

NF4:

- *Co-management is working together since we have different opinions and we need to combine them.*
- *Government should benefit – since they provide guidelines and fishing limits, we are better conserving the resources. Communities should benefit since they receive free permits and have access to the resources (and therefore food). They should also benefit from alternative livelihoods.*
- *Monitors and other community members should communicate to the authorities about poaching.*
- *Formed so that the co-management committee can be an ‘eye’ for the compliant staff so marine resources will no longer be destroyed.*
- *We benefit because we work hand on hand and there is no bloodshed.*
- *Everything is going well here – everything is straight like an arrow.*

NF5:

- *If there is anything the community needs we need to sit down and come to a decision together.*
- *Nothing was happening so the community needed to join hands with the government to produce results.*
- *To consult with the people and get together to educate one another.*
- *It is important to consider traditional knowledge and practices.*
- *First we discuss as a committee and then come to a final decision (even though that is very difficult).*
- *Since we have noticed a decrease of mussels, we decided to stop harvesting. Later a stock survey showed that there are now mussels again. We have decided to harvest again but with smaller quota.*
- *The government helps us a lot – the SFIU helps with knowledge and also address all issues with us.*
- *Yes (co-management is the best approach) because we now understand each other and make decisions together.*

Swartkops:

SF1:

- *Certain people are part of a committee and run/manage together. No decision can be taken in the absence of another.*
- *To be able to do things together – development will come out of this – gives capacity to us and allows us to be independent.*

- *People who are involved and don't know how to address issues – need to help others know how to manage.*
- *It is important to look at alternatives. It was very helpful when this project started. And people might have interest in other skills development*
- *Important to have co-management because people were being chased and nothing was running smoothly.*
- *We are not part of the decisions. They told us we would be involved but not actually.*
- *I have hope for co-management. If people make an effort it can work.*

SF2:

- *We should work together and communicate.*
- *People should be capacitated about the resources they use.*
- *There should be other socio-economic development projects – other contract work where they can participate through employment.*
- *Some of the barriers are that the meetings are not continuous, not consistent, not being sustained.*
- *Government would give an ear in meetings but traditional knowledge and practices are not implemented.*
- *Yes (co-management is the best approach) because when they do meet they can raise issues (but takes too long right now).*

SF3:

- *It is management but it is not happening the way it should. Honouraries are chasing us (bait diggers) and there is no equality.*
- *Everybody should be involved, including the fishing committee.*
- *At first people are working in their separate ways so co-management brings those people together.*
- *Co-management members should come together to talk about issues to come to a decision.*
- *Decisions are taken without involving us.*
- *There were times when there was good communication but now there isn't.*
- *We should do things collectively.*

GOVERNMENT OFFICIALS:

KwaZulu-Natal

KZN1:

- *Co-management is partnerships, relationship between two parties. Its an arrangement reached with shared responsibility/management of resource.*

- *Equal benefits of both parties – no imbalance and then it leads to good co-management.*
- *But there are limited benefits in KZN – since resources are limited – they are not allowed to sell (only for themselves and maybe 1-2 fish sales within the communities). Therefore there is no market (catches are so insignificant) – no monetary value. Communities feel like they are not getting many benefits.*
- *Promotes good relationships between the government and the communities*
- *Must be PARTICIPATORY – have a co-management committee that allows for decisions to be consensus based.*
- **SHOULD:** *At the beginning, government and committee sit down, look at the current laws that apply to the fishers, explain what they can/cannot control and then make decisions together.*
- *Co-management works in KZN (because of the infrastructure put into place). Dependence on a resource tends to allow for better co-management – since there is more motivation to participate.*
- *Benefits – need incentives. Need to empower the co-management committee. The community must think that it is worthwhile to commit to a co-management arrangement. However, benefits are not coming from fishing – communities want monetary benefits but this is not an option with fishing.*

KZN2:

- *The poorer are marginalized, but they are the real users of the resource since they are dependent – they need to be properly represented.*
- *Good Co-management is equality and empowerment of community.*
- *All must equally participate. All must have shared responsibility. And there must be **TRUST**.*
- *Everyone benefits from better social relations.*
- *We need to find a balance between the need of the people and the resources.*
- *A good relationship between the stakeholders allows space to look for alternative livelihoods.*
- *Need to understand social dynamics of the community.*

KZN3:

- *The government working with different communities. Stakeholders working together.*
- *Need to make the right decision for the people.*
- *To understand the role of different stakeholders and to have better communication.*
- *It is important to have institutions – many people don't understand co-management clearly, so this can help to clarify.*
- *Yes it is working, but there is no progress – issues take long to resolve.*

KZN4:

- *Co-management is two different parties – government and community – with different ideas, to combine those ideas and discuss, then to come to an agreement that is favourable to both parties.*
- *Both parties should benefit. Government can benefit by educating people. Fishers benefit by gaining access and learn to manage resources.*
- *The decision must suit both parties – BUT if it is too difficult to make a decision, then it should be taken to higher management.*
- *There should be a co-management constitution that is specific for certain areas.*
- *If decisions were made quicker, then co-management would be stronger.*
- *Yes (co-management is the best approach) because the fishers can manage the resource, can recognize real subsistence fishers and the fishers now have permits.*

KZN5:

- *Both parties understand an agreement – all members must understand management practice, but there needs to be more workshops to explain. They need to be transparent with each other, need COMMUNICATION.*
- *Government: minimize the use of the resource and create sustainable management, have the community learn about sustainable management, create a sense of ownership within the community.*
- *Community needs to benefit – alternative livelihoods would allow them to benefit more.*
- *Government benefits from conservation but must play a role in alternative livelihoods.*
- *The whole co-management committee should make decisions.*
- *There is communication now and the relationship has improved. Co-management is the best option because there is guidance.*

KZN6:

- *Two separate groups coming together and sit down to discuss problems.*
- *The government should not take decisions by themselves. A group decision is the best way as long as its in line with the law.*
- *Good communication is very important. It is a way to pass information and relay it to the stakeholders. Meetings once a month is also very important.*
- *Resources can grow if the community is not dependent on them. The local municipality should get involved to help in this area.*
- *Yes, because if the government didn't work with the community then co-management wouldn't work. It has opened the door to help and explain to the community.*
- *In some places there are a lot of problems. But we can sit down together and discuss. Some problems are solved, but some are not. People want other projects either than fishing.*
- *Yes because relationships have improved between the government and the community.*

KZN7:

- *Working together between the law enforcement and resource users.*
- *Need to explain why we need to have sustainable management and share this info with the resource users.*
- *Co-management because there was a bad image of the authorities (it was authorities vs. the people). People weren't being transformed with the new regulations. People were arrested without explanation. Co-management allows for people to discuss problems and issues together in order to come to a compromise.*
- *Some people don't participate properly – information needs to flow so that people share the same understandings.*
- *So decisions should be made on the table (not just by one party). But the decisions must be agreed by everyone on the committee.*
- *Authorities need to make sure that there is sustainable management but the communities need to use the resource.*
- *We had workshops so that people could understand each other.*
- *Yes it is working but we need to strengthen some areas. We need to create more workshops in order to have more capacity building.*

KZN8:

- *Compliance staff working together with the community to create sustainable management.*
- *Conservation cannot survive without people. We need to consider the people and the ecosystem together.*
- *The community should move away from subsistence and towards other jobs, but in the meantime we need to offer subsistence fishing.*
- *The government benefits since resources are sustained, and sustainable management can provide better for the people.*
- *To create partnership – working with people and explain why we need sustainable management. It also allows for more effective management (because the government can't always be there).*
- *Yes – we depend on the community's knowledge and experience. It is good to have input from them but need to determine if its making an impact on the environment (science needs to make sure if its sustainable).*
- *We shouldn't impose more regulations but rather make it more adaptable to the area.*

Marine and Coastal Management:

MCM1:

- *Co-management is to manage common resources together. To switch from a top-down approach to a community involvement approach.*

- *To give community some power. If the community has more power, management can be more effective.*
- *Co-management allows for the community to benefit (so that no tragedy of the commons situation occurs). The government benefits because management becomes easier – less responsibility and less stress to manage (since government offices are often far away from management sites).*
- *The government is often understaffed, so if the government cannot reach the respective communities often, the co-management is a good solution.*
- *MCM should play a crucial role in the initiation of co-management. If they are out of the process then the arrangement loses momentum (lack of training, support, finances).*
- *Decisions should be made jointly BUT in practice it is difficult because of national policies (decisions need to be made within legal constraints). But in terms of role and responsibilities, it is important to have fisher involvement, as only they know their own capabilities.*
- *Constant communication is needed at the beginning of a co-management arrangement in order to build momentum and to build trust. Once the co-management arrangement is rolling and more stable, meetings don't have to be as often.*
- *Yes (co-management is the best approach), but there are many challenges. Decisions are being made in Cape Town. It would be better if decisions could be made on the spot with the authority at the meetings with the co-m committee.*

MCM2:

- *Co-management is various stakeholders coming together, finding a common ground, sharing ideas and exposing problems.*
- *We need to look at goals of the department (mandate) and bring ideas in line with that mandate.*
- *Everyone benefits PLUS the environment benefits through proper sustainable management.*
- *We need to understand each others' roles so that we respect each other.*
- *Affluent people don't understand that resources need to be harvested by subsistence fishers, so they are resisting to give support to co-management projects.*
- *Meetings and fishers submitted their proposals and discussed in general meetings. Scientists and the department make a decision on whether it is the right way to move forward.*
- *Communication and understanding with the fishers, fishers now understand the need for conservation practices and the need for law enforcement, control so that future generations can enjoy the marine resources. People need to act responsibly to conserve resources. Fishers now understand this and can act accordingly.*
- *There will never be complete satisfaction between compliance staff and the fishers – law enforcement can upset people.*

MCM3:

- *Involvement of the stakeholders and all fishers to manage a resource.*
- *Everybody should benefit through poverty alleviation and sustainability so that future generations can have marine resources.*
- *People need to get a better understanding of sustainable management.*
- *Decisions should be fair and consistent and each opinion should be considered – all parties involved equally and fairly.*
- *(The objective of the Swartkops co-management arrangement) is to see that permits are adhered in all fishing sectors and to ensure sustainable management.*
- *Before the stakeholders were not involved – they didn't know what was going on. And before many people believed it was discrimination. But now there is participation*
- *Sometimes there is one party that is not involved (not present at a meeting) so it is difficult to make a decision.*

MCM4:

- *We need to accept the legitimacy of others' points of view and take them seriously.*
- *Co-management should operate within legal parameters but should try to be flexible (or else it can limit the solution). Should be willing to make exceptions or have the law reviewed.*
- *Co-management is a process to finding a solution to a problem.*
- *Co-management – shouldn't change overall framework to make it convenient for one party. There is no formula that fits all.*
- *Co-management – out to help people and jointly make a decision (give some assistance to each party).*
- *Need cohesion between stakeholders – if there are differences between the stakeholders the need to bring them into meetings and talk.*
- *Fishers often have supporters from organizations and universities – they provide capacity but also risk stripping this capacity when the person leaves.*
- *Government needs to be represented also and meet with the other representatives – at the senior level to make recommendations and closer to the decision-making (deputy director level) – so that they can be held accountable.*
- *Community where some have rights and other don't (creates division). When there is no division it is good for co-management.*
- *We don't make enough NEW mistakes.*
- *I don't think it is working well at the moment but don't think we should give up – we need new ideas and tools (e.g. Estuarine Management Plan) – but these needs to be jointly drafted.*
- *If co-management means that government may need to amend laws and regulations in order to reach solutions – then it has a future because a one-size fits all approach does not work.*

MCM5:

- *Co-management is expectations and responsibilities. Perspectives and different ideas must be shared. Responsibilities must be done together, among the stakeholders.*
- *People taking decisions take responsibility. Benefits depend from case to case. The people taking decisions need to make sure that all stakeholders benefit.*
- *Decisions must be made based on debate – make decisions based on a lot of information.*
- *One decision needs to be made (easier to make quick decisions) – get results more quickly and then can make a different decision (and can amend quickly) – must be aware of the best options!*
- *Indigenous knowledge ≠ primitive.*
- *I see co-management as an instrument (tool) for local economic development – also for sustainable resource use.*
- *There is tension and doubt, but I do see scope for co-management and it can be successful.*
- *Co-management hasn't had enough space or time – its not the best yet.*

OTHER STAKEHOLDERS:

Ebenhaeser:

ES1:

- *Respect, inclusion, partnership and participation.*
- *To strengthen relationships and partnerships between the resource users and the resource managers.*
- *All parties involved in a co-management agreement should benefit. Also, by entering in a co-management agreement, there should be clear roles and responsibilities and parties involved should aim to achieve their objectives as set out in the agreement. The kind of benefits that could arise can include, better understanding and communication between the stakeholders, objectives being achieved within timeframes, sustainability of resources being co-managed and lessons being learnt for future management.*
- *Resource managers cannot 'manage' resources in isolation. As livelihoods are dependent in many cases upon natural resources, there should be inclusion and understanding of the livelihood profiles dependent on these resources.*
- *The most important aspect in decision-making, is that it should be a consultative process!!!!*
- *In principle, yes, co-management is feasible as a management approach in SA. But there is a lack of understanding of the process, especially at government level. Co-management is understood as having a meeting with local people and providing feedback in 2 or 3 months. Commitment is a major factor lacking especially from government.*

- *The top-down management approach HOLDS! Government disregards local resource users and claim they engage in co-management but this is just a farce.*
- *In principle it can work, but there should be buy-in from the one stakeholder (Government) and this is currently not the case. When government gets on board and are truly dedicated to the objectives of co-management then it could possibly work.*

ES2:

- *We need joint and equal participatory decision-making between different stakeholders.*
- *The objective is to ensure equal, fair and effective participation of the stakeholders in governance of fisheries.*
- *The [government] needs to learn to share difficult decisions with the community.*

Swartkops:

SS1:

- *Need to all talk, but the bottom line is the law.*
- *Talking can bring problems – need to hold meetings regularly and need to be consistent.*
- *Education and follow-ups are VERY IMPORTANT! – need to make sure that the fishers really understand (E.g. MNU created the bait shop project – educated the fishers and then dropped them).*
- *Need consistency! – MCM needs to take action (too much talk!)*
- *I am most unsatisfied with the communication. We are trying to drive it when it should be driven by local government. The subsistence fishers are suffering the most.*
- *We need communication and trust between all the stakeholders.*

SS2:

- *Co-management is all the stakeholders having equal input into management of the estuary.*
- *The law must be upheld. New ideas must be debated and come to a common ground.*
- *Need government representative that sits with the fishers often (and need education).*
- *No big decisions are being made currently.*
- *No (I am not satisfied with how decisions are being made) because I believe there should be more consultation with the stakeholders.*
- *Co-management is not working at Swartkops because it is not a regular committed activity.*
- *There has been progress in achieving the outcomes – fishing has become more controlled, and the majority wants to make co-management successful.*

SS3:

- *Co-management is different stakeholders working together to manage an area.*
- *Look at people's relationship with the area and pool people's opinions together.*
- *Consider the ecosystem services and its use to the community – and if it's a critical area then we need to manage it.*
- *People are always looking for benefits and don't want to compromise. People need to recognise what is best for the greater community.*
- *Decisions were not made – just keep going around the bush (few decisions were ever taken) because of differences between the illiterate bait diggers, local authorities (educated – with degrees), ZT (don't like the diggers) - there were too many different agendas.*
- *I believe that co-management is possible, most parties want to protect the resource so they ultimately have the same goal. C-management is inevitable when there are multiple stakeholders. There is no other approach, just need to make co-management work.*

SS4:

- *Bringing together a group of people who have same interests – give inputs into management of the resource.*
- *Need to have a harmonious relationship between the role players.*
- *Tensions are prevailing between various stakeholders and role players (There is an 'us versus them' approach). Political processes have created this, and it needs to be managed. Need to also consider the advantaged/disadvantaged people, and their history.*
- *Decisions should be all-inclusive and all encompassing. Should include and share opinions, experiences, implications and reasons.*
- *I don't think there is adequate communication – it is driven by those who want something to be done.*
- *No I am not satisfied with the decision-making, because not all the stakeholders are involved. Right now its just the law enforcement, which is not co-management.*

9.3 Appendix C: List of Interviewees

The following is a list of interviewees (listed in alphabetical order)⁶:

1. Jakob Afrika
2. Sarah Afrika
3. Ntobeko Bacela
4. Bongani Bhengu
5. Aguls Blankenberg
6. Zola Booii
7. Alan Boyd
8. Zacharia Cele
9. Nelly Cynthia
10. Wilfred Dlamini
11. Johannes Don
12. Sylvester Don
13. Selby Duma
14. Nkosana Gayiya
15. Vuyani Hobongwana
16. Elana Keef
17. Mcanwa Khawula
18. Petrus Koordom
19. Pula Lonake
20. Nelly Majola
21. Lindiwe Manqele
22. Sebenzile Maqanqle
23. Ayanda Matoti
24. Wilson Mbambo
25. Skhumbuzo Mkhwanazi
26. Dennis Mostert
27. Frans Mthembu
28. Gijimani Myende
29. Prudence Ndadana
30. Thuleleni Nxele
31. Joe Lehlohonolo Phadima
32. Selvan Pillay
33. Gillian Rhodes
34. Wayne Rudman
35. Jenny Rump
36. Jessie Shinga
37. Jabulani Shozi
38. Jackie Sunde
39. Samantha Williams

⁶ One name is excluded from this list at the request of the stakeholder interviewed